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The cover: A depiction of the fragmentation of multiple personality. Artwork is by a patient in the Dissociative Disorders Program.

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Mending Shattered Minds

By Mary-Ann Redeker

"My mother sent me into the garden to find my father," says three-year-old Little Ellen, hugging her teddy bear closer to her. "I found him between the rows of tall sunflowers."

She pauses. Her face changes, eyes squint, brows knit together and lips form a scowl. Beast hunches forward. "It hurt," he growls. "I want to kill him."

Little Ellen and Beast. The keepers of the first incest memory for 42-year-old Sheila White.* Sheila has many more keepers of childhood secrets, of brutal memories of repeated rape by her father, torment by her older brothers, and beatings by her mother.

Sheila is one of at least 6,000 Americans who currently suffer from multiple personality disorder (MPD), one of the most unusual and severe types of emotional disorders. On the surface, Sheila leads a seemingly successful life. She's bright, articulate and strikingly beautiful. She balances a career as an artist and sometime dancer with raising a family. But this surface belies an internal chaos of rage, confusion, destruction and darkness.

MPD is one of the dissociative disorders. It is characterized by the formation of distinct personalities and memory fragments. One "host" individual is inhabited by two or more separate personalities, or "alters" as they are sometimes called, each having its own life history and behavior patterns. Personalities and fragments (part personalities)—and in some cases there are 100 or more—alternately "come out" and assume control of the host's behavior.

In childhood, forming personalities is an adaptive response to childhood abuse. But in adulthood the continuation of personality formation and the switching from one personality to another to escape a painful situation or cope with an uncomfortable event creates maladaptive, and in many cases, inappropriate responses. Adults with MPD suffer from confusion, loss of large amounts of time, and problems in their relationships and job. Many are suicidal and/or can be a threat to others. Because they have been so badly abused, they are hypervigilant and will do anything to avoid painful encounters.

Seventy-five different personalities or fragments either keep Sheila's memories or help her function appropriately or inappropriately in the world around her. There are male and female personalities, ranging in age from 2 to 30. They all have names: Christian names such as Little Ellen, Bob, Beth; names which describe functions, Guardian, Informer, Organizer, Avenger; names associated with the ages when they were formed, Two and Sixteen; and names attached to primitive emotions and instincts, Beast, Dog, Rage, Animal.

All her personalities have specific functions. When Sheila was a child, the child personalities, watched over by the Guardian, were formed to perform normal activities (Greta goes to school, Christy plays with other children, and Lampkin draws) and abnormal activities (Two and Rage perform sex acts for adults). Similar preteen, teen and adult personality systems also helped her escape from a life of horror and abuse. Super Sheila manages her career; gentle Eileen mothers her children; and passionate Brigitta has sex with her husband. While some personalities protect, others persecute her for perceived wrongs. Animal reminds her that the sexual abuse was *her*

Sand tray therapy helps patients "talk about" past trauma without actually "telling."

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*composite patient

fault; she seduced her father. Malcolm, the "perfect son," admonishes her for not being the good girl her mother wanted.

Some of Sheila's personalities have psychophysiological symptoms not experienced by others. Some have headaches, others don't. Other symptoms occurring in certain personalities are anxiety manifestations, chest pain, gastrointestinal problems and seizure disorders. One of the most remarkable is the unpredictable response to medication or food. One personality may tolerate aspirin while the others have violent reactions to it. Some personalities can eat eggs with no problems; others develop severe rashes.

Her personalities may or may not be aware of each other. "I remember a beautiful May spring day, the next thing I knew it was October," Sheila says. "That frightened me. I didn't remember a thing I did all summer." Because personalities aren't always aware of the existence of each other, people with MPD are often plagued with the loss of time and amnesia. "I woke up in the morning and found a black nightie on my dresser and $500 sitting next to it. I had a black eye and every joint in my body ached. I couldn't imagine what had happened." (Sheila later discovered that Brigitta had been out, soliciting.)

"I felt out of control. My husband, as confused as I was as to what was going on, encouraged me to seek help. But that only compounded the nightmare," she says.

Sheila was first diagnosed as depressed, then as having a panic disorder. She isn't alone. In 1986, researchers at the National Institute of Mental Health published an article which showed that the average MPD patient is misdiagnosed 3.4 times over a 6.8-year span from the patient's first mental health contact to the time when a correct diagnosis is made.

Originally described in the 19th century by the French physician Pierre Janet, MPD was assumed to be extremely rare. The introduction of the term schizophrenia in the early 1900s led to the misdiagnosis of many MPD patients as schizophrenic, because both disorders exhibit some of the same characteristics. The misdiagnosis of MPD continues today, partly because of the mystique and disbelief that surrounds this disorder. But, in the past three decades, there has been a resurgence of interest in this perplexing disorder, due in large part to the movie, *The Three Faces of Eve*, and books about Sybil and Billy Milligan.

Specialists in the field have adopted their own diagnostic and treatment language. Therapists speak of personalities, alters and fragments; of splitting and switching; and of fusion and integration. A person with MPD has come to be known as a "multiple."

Because of the seriousness of MPD, treatment is approached on several levels. Psychotherapy and hypnosis are used to uncover abuse and trauma. Extensive use is made of nonverbal therapies (i.e., play therapy, art therapy, occupational therapy projects, journals) so patients can "tell" without actually talking about it. Concomitant therapy focuses on the "here and now" to help patients function more appropriately in society. These several approaches lead to an integration of personalities to form a more "complete" person and to reduce aberrant behavior which may be destructive to themselves and others.

In 1980, the Diagnostic and Statistical Manual of Mental Disorders, Third Edition (DSM-III) first recognized MPD as a distinct syndrome. New research continues to expand our knowledge base and diagnostic and treatment expertise.

Over the years, three broad categories of multiplicity have evolved: the ritualistically abused multiple (satanic cult abuse victims see page 5); the non-ritualistically abused multiple (familial abuse or abuse by outsiders); and the very rare psychologically abused multiple (the "Oliver Twist" syndrome in which a child is made to feel he or she never does anything right). The most common type is mixed: physical, sexual and psychological abuse with a significant amount of neglect.

But it is severe physical, sexual and psychological abuse at a very young age that most MPD patients have in common. "We've found through several studies that 98 percent of all patients with MPD were sexually abused, many of them in infancy," says psychiatrist Bennett G. Braun, M.D., director, Dissociative Disorders Program, at Rush-Presbyterian-St. Luke's. Dr. Braun also heads the 12-bed Dissociative Disorders Unit, the first unit in the country to focus exclusively on treating patients with MPD.

"The younger the child and the more severe the abuse or trauma, the greater the chance the child will develop multiple personality disorder," he notes. He believes that people with MPD also share other characteristics: they are generally above average in intelligence, very creative, and highly susceptible to hypnosis.

Shrouded in silence and secrecy, child abuse spans generations, leaving in its wake violence, sui-

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Perhaps The Hardest Of All To Accept: Ritualistic Abuse
A Growing Problem in the United States

Several years ago, the FBI reported the existence of 3,000 cults in the United States with an estimated total membership varying from 3 to 8 million members. Recently, references to cults, cult activity, and cult-related crime have begun to appear in our newspapers and magazines. We read about "mutilated animals in forest preserves" and "possible cult involvement in child abuse incidents in day care centers."

Accounts of cult activity, dating back more than 1,500 years, report nocturnal feasts, slayings, chants, animal and infant sacrifice, cannibalism and the ritual use of blood and excrement. "I hear similar stories today from patients," says Bennett G. Braun, M.D., director, Dissociative Disorders Program/Inpatient Unit.

Four babies lie in the sand tray, with ribbons ceremoneously circling them. "These are the four babies I had for the cult," Jackie explains matter-of-factly. At age four, she was deprived of sleep all night and food and water the next day. By evening, having reached a point of total fatigue, she was forced to watch a dog being tortured and sacrificed, its paw hung around her neck as a reminder to obey. At age seven, after years of torture, sexual abuse and deprivation, she showed complete obedience to the cult by bringing her best friend to a ceremony, knowing that the friend would be sacrificed. Today, Jackie is trying to come to grips with this life of terror.

Until very recently, the therapeutic community had viewed with skepticism the many reports of incest alone. Accepting programmed child abuse experienced by the ritualistically abused is even more mind-boggling.

"Our patients talk of participating or watching the dismemberment of bodies and of being forced to give birth to infants who were used in sexual ways and eventually dismembered and cannibalized," says Roberta Sachs, Ph.D., assistant professor, psychology and social sciences/psychiatry. "They speak of being locked in closets, of having excrement smeared all over them, and of being repeatedly sexually and sadistically abused by members of the cult. You don't hear those same stories from 80 patients from 26 different states and feel that all these people made them up."

"We can't even liken this to the horrors of the concentration camps," observes social worker Elaine Shepp, M.S.W., who has interviewed survivors of Nazi concentration camps as part of a long-term Yale University study of the effects of the Holocaust. "For the past five years, I have heard horror stories I thought could not be surpassed, yet I'm hearing stories from our patients of atrocities with an even more perverse motivation."

Coming to Grips with the Unbearable

"Some patients I've worked with were able to leave the cult at an early age and have to deal with being victims," Dr. Sachs says. "For the most part, as adults, they can come to understand and forgive themselves because they could do nothing and were totally helpless.

"On the other hand, some of my patients remained in cults and became active perpetrators and leaders. When, as adults, they begin to uncover what they have done, they usually have very little desire to live," she says. "It's a very difficult treatment issue to work with because whether they've been programmed or brainwashed or whatever, they have participated in multiple murders."

Intervening

Ritualistically abused patients with MPD tend to be much more polyfragmented than the non-ritualistically abused. "In ritual abuse, it's the pairing of repeated experiences that are overwhelming, predictable, intensely pleasureable and excruciatingly painful that creates the shattering or formation of personalities," Dr. Sachs says, "as in the case of the child who is being sexually stimulated while also being burned with fire or mutilated with a knife."

The treatment process of the ritualistically abused MPD patient is similar to that of other MPD patients. "We usually begin to pick up on cult involvement during the evaluation," art therapist Erin Fisher, M.A.T., says. "I'll see upside down crosses, coffins, snakes or other symbols in drawings." Spiders and snakes appear in sand trays.

"The philosophy behind most cults is power. This power over others is obtained through ceremonies and sacrifices, by drinking blood and killing infants," explains Dr. Braun. "I believe children are programmed from a very early age. The cults break the will but not the

Marriage to Satan is depicted in sand tray therapy.

spirit. They want people who will follow without question and *with vigor.*"

Programmed Suicide

Dr. Braun feels that many cult followers are programmed to commit suicide. "It's the ultimate way to keep a secret," he says.

Patients report that as young children they were systematically tortured and terrorized. "I was locked in a closet, then locked in a coffin," Jackie remembers. "They then buried me in the coffin, first alone, then with rats and snakes, and finally with a dead body. How could I talk about it?"

Other patients talk of being trained to strangle themselves. "I was hung upside down as a child," one recalls. "First hung by the feet, next by the neck. Oddly, it began to feel OK."

"To escape the terror, these patients dissociate and secrete endorphins," Dr. Braun observes. "Only in this case, they become addicted to their own endorphins. When cued to act, they become terrified. To decrease the terror or get the endorphin release, they try to hang themselves. This is one reason we see a lot of suicidal behavior and self-mutilations among our ritualistically abused patients. They try to lock themselves in closets on the unit to escape the fear and terror of the memories. But what they are really doing is trying to get high to escape the situation or memory."

Therapists use medications to reduce the uncontrolled switching and decrease the self-harm, and various therapies to gradually get at the memories.

"I've done over 300 sand trays," Jackie says. "In the beginning it was two hours a day, five days a week, making sand trays. It was the only time I felt safe enough to talk about what had happened. That was four years ago. Now, if I get stuck in therapy, I still go in and make a sand tray."

She's enjoyed having the play room for "my many little ones" and is grateful for sessions in the quiet room to help her uncover the most painful memories, "but my greatest satisfaction has come from talking with the doctors and staff. For a long time, I felt no one could possibly understand what I had been through. But these people do."

Bennett G. Braun, M.D., and Roberta Sachs, Ph.D.

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cide, depression, physical deformity and alienation. (In Sheila White's case, Two remembers being told "not to tell mother" and "it will be our little secret"; Sixteen, urged on by Animal, tried to commit suicide; and Amanda hides burn scars.)

Researchers have also found that MPD is transgenerational. In a review of 100 of his cases, Dr. Braun discovered that a significant percentage of his patients have parents who also have MPD or another dissociative disorder.

Most patients are in their late 20s or early 30s when a diagnosis of MPD is first made, despite the fact that it is a disorder that starts in childhood. Clinicians are now beginning to pick up on its existence in young children and teenagers.

"An 11-year-old patient of mine reported the loss of large blocks of time. I could see dramatic shifts in behavior," says Elva Poznanski, M.D., the Woman's Board professor and director of child psychiatry. "I wondered about dissociative behavior. It was confirmed when I asked if she heard voices talking inside her head and she nodded." Since that first patient three years ago, Dr. Poznanski has found evidence of multiple personality disorder in six other children.

"Some of the children I have seen do have separate fully developed personalities," she says. These personalities vary in age and sex; some are animal alters, usually dogs and cats.

Many children are reticent to talk about the abuse they have suffered until they are hospitalized because they have been threatened with extreme punishment or death if they talk. "I've often found that children who have been severely abused literally need to feel physically safe on our closed child psychiatry unit before they will begin to talk about the abuse," she says.

"I had one mother tell me that her child wakes up at night and says 'Mother, I have to kill you.' This child was recently adopted. The couple had waited a long time to adopt and were so happy when she came into their lives. It's very hard to not only have to tell the family that their little girl has MPD, but that we also believe she was abused by a satanic cult."

The Dissociative Disorders

We all dissociate. Daydreaming is the most benign form. Dissociation, or mentally removing yourself from a situation, is a natural coping mechanism we use to escape stress. But when the stress is so severe and long-lasting, as in the case of chronic child abuse, dissociating literally becomes a means of survival.

Dissociative disorders encompass a broad category of internal "flight" syndromes. Post-traumatic stress disorder, seen in Viet Nam veterans and rape victims who have flashbacks, is related. "I feel that multiple personality disorder is a very special kind of post-traumatic stress disorder," says Dr. Braun.

The body responds both physically (increased heart rate and hormone levels) and emotionally to an abuse incident. These responses are "encapsulated" in the mind. Repeated abuse and dissociation to the same "encapsulated" state allow fragments of personalities to begin to coalesce.

Fragments of abuse memory begin to respond to the abuse in the child's (host's) daily environment. The continued overwhelming, unpredictable abuse encourages this personality fragment to take executive control of the body. The repeated switching to the fragment facilitates the development of a separate life history. When the fragment has developed its own life history along with a wide range of its own memories and emotions, a new personality state has been created.

"One of the classic lines you hear from people who have been sexually abused is that they would have done anything if they could disappear. That's just what people with MPD do. They disappear by dissociating," says Dr. Braun's colleague, Roberta Sachs, Ph.D., assistant professor, psychology and social sciences/psychiatry.

The 3 Ps: Mapping the Causes

Since 1977, Drs. Braun and Sachs have each treated more than 300 people with MPD. They observed that certain biological and environmental factors had to be present for multiple personality disorder to develop. Dr. Braun, with Dr. Sachs, developed the 3-P model of MPD which describes the *predisposing*, *precipitating* and *perpetuating* factors that must be present for MPD to exist.

Cult themes appear in patient art work: the upside down cross represents the cult; "no choice" is the control cult members exert.

"The younger the child and the more severe the abuse or trauma, the greater the chance the child will develop multiple personality disorder."

Bennett G. Braun, M.D.

Predisposing Factors. Two predisposing factors are necessary for MPD to develop: 1) an inborn dissociative capacity (i.e. self-hypnotic capabilities) and 2) a psychological environment characterized by consistent but unpredictable physical and psychological trauma. People with dissociative ability who are not exposed to severe, unpredictable trauma grow up to become normal highly hypnotizable people. In contrast, children with little or no dissociative capacity who are exposed to such abuse are likely to manifest some other type of psychiatric disorder.

Precipitating Factors. Repetitive highly traumatic events trigger a linking between a number of dissociated memories and are the precipitating factors in the development of MPD. These separate dissociated memories become integrated by a common theme or physiologic state, such as some form of physical or sexual abuse.

Perpetuating Factors. After continuous exposure to inconsistently abusive situations, the person with a high dissociative capacity begins to file the memories of these traumatic events by theme and/or psychophysiologic state. These memories begin to take on a life of their own, forming a fragment of a personality which may later develop into a full personality. For each fragment of linked memories (i.e., being burned with a cigarette), specific adaptive responses develop and coalesce into a personality.

"It doesn't have to be the same act and the same perpetrator. It just has to be repeated, unpredictable trauma," says Dr. Sachs.

"I think unpredictability is a key factor," Dr. Braun stresses. "It would almost be better for these children if they could count on being abused the same way every night at 9 p.m. At least the abuse would be consistent. But it is the unpredictability, the never knowing whether you will be raped, beaten and humiliated or praised and loved and when this will happen, that reinforces the need to dissociate."

The Informer explains: Little Ellen could never hide. The father would always find her. The mother would hug her and tell her that she loved her, then burn her with a cigarette. The brothers would push her on the swing and play with her, then humiliate her and call her a baby. Beast shielded her from experiencing sexual abuse; Amanda found ways to hide or lie about the cigarette burns at school; and Lisa physically resisted her brothers.

By the time she turned five, Sheila had six personalities and 12 fragments to shield her from the violence within her family. When she was admitted to the Dissociative Disorders Program's pilot program in 1984, following a suicide attempt, 75 personality states and fragments protected Sheila from the real world.

A Place to Call Their Own

"We run an intensive care unit for 12 severely damaged, disturbed, chaotic, self-destructive, needy people," says Dr. Sachs. In July 1987, the Medical Center opened the first inpatient unit in the country to focus exclusively on the treatment of dissociative disorders. The 12-bed unit, now located at Rush North Shore Medical Center, an affiliate of Rush-Presbyterian-St. Luke's, is a natural outgrowth of the pilot program, begun in 1984, for the inpatient treatment of dissociative disorders.

"It was nice to move to a unit for people like me," Sheila recalls. "So many people don't understand MPD. You feel like a freak. We finally have a place to call our own."

While most of the therapy work is done on an outpatient basis, there are times when MPD patients need to be hospitalized. Over a three-year period, Sheila was admitted for an initial four-week assessment by the treatment team. She returned to the unit for two- to three-month stays when she needed to work through some very traumatic, violent experiences; if she was suicidal and if she needed special procedures such as personality integrations or crisis intervention. Patients may also be admitted if they are endangering their children or they are going to have surgery. (Going through a surgical procedure is looked upon as another form of torture. Therapists need to negotiate which personality is going to take the anesthesia because there have been incidents when patients have switched personalities during the procedure and sat up in the middle of surgery.)

Says Dr. Braun: "During our first years of treating multiple personality disorder patients, many hours were spent developing the team treatment approach which was the hallmark of the pilot program."

The 13-step treatment program blends the expertise and skills of several disciplines—psychiatry, nursing, occupational therapy, art therapy, social service, psychology and psychopharmacology. All treatment programs begin with an assessment by the treatment team. During the first stage of treatment, trust is developed, a diagnosis made and shared and histories from the personality states are gathered. Throughout therapy, the treatment team works with each personality

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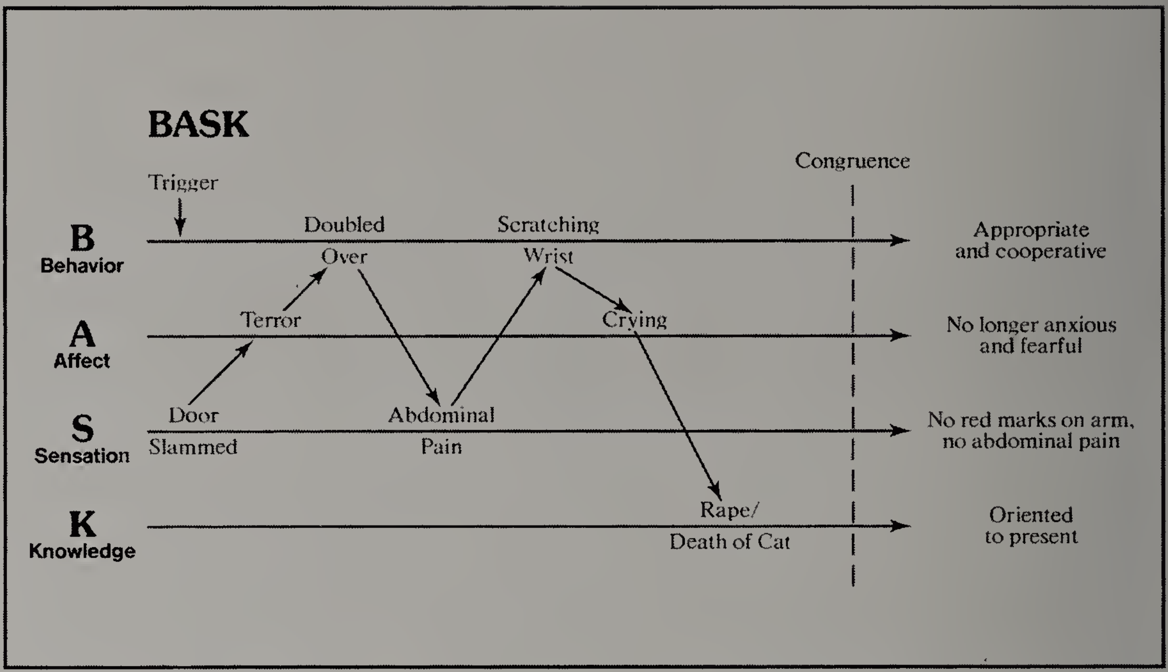
BASK-BATS Models: Mapping Dissociation



In 1985, Dr. Braun conceptualized the phenomena of dissociation through the use of a model which represents a continuum of awareness. The BASK Model proposes that four separate processes (behavior, affect, sensation and knowledge) are necessary in the creation of memory. These processes function in parallel along a time continuum. When dissociation (a common coping mechanism in times of stress) occurs, there is a disruption in memory.

An example of normal dissociation might be as follows: Following an argument with his spouse, a normal individual may pull into a parking space at his office and suddenly realize that he has no memory of driving there, of stopping at stoplights, turning corners, or checking for other traffic or pedestrians. The affect of the recent argument has caused him to dissociate his behavior (driving the car), sensation (the feel of his foot moving from gas pedal to brake) and knowledge (awareness of the small decisions he had to make while driving the vehicle). Another example is the housewife who, while deeply engrossed in reading the newspaper, responds "O.K." when her child asks to go over to his friend's house for dinner. That evening, when her child does not show up after school, the mother becomes very concerned, not remembering the morning's conversation.

In the BASK Model of dissociation, normal dissociative episodes, such as those described above, are conceptualized on one end of a continuum of dissociation. At the other end, the pathological end of the spectrum, lies MPD. The severity of the stressor and the frequency in which abusive and overwhelming incidents occur are key factors in determining the degree of impairment that is created.

In MPD, as physically and sexually abusive incidents are repeated overtime and inconsistently alternated with expressions of love and caring from the abuser, information becomes encoded in one or more levels of the BASK system. In later years, an innocent statement or action by another person may closely mimic an element of an abusive incident and serve to trigger a dissociative response in the patient.

From the BASK Model, Dr. Braun went on to adapt this theory of dissociation to a treatment model, called BATS (behavior, affect, thought, sensation). In BATS, thought replaces knowledge because knowledge is a static phenomenon, whereas thought is an active process. The goal of treatment is to bring congruence in the patient's thought processes across all levels of BASK and thereby enable patients to attain continuity in their perception of time. During therapy, it becomes necessary to gather the information that is encoded in each of the personalities and fragments involved to understand each of the abusive incidents and assist the patient in processing his or her feelings and understanding of the events.

By piecing together important sensation and behavioral clues, Dr. Braun was able to chart one traumatic incident in Sheila's life and help her uncover the painful memories associated with it which were causing severe physical symptoms.

When Sheila was admitted to the hospital, she complained of periodic severe abdominal pain, usually accompanied by red, patchy areas on the skin of her right arm. One day, another patient slammed a door behind her (trigger). Sheila was later found doubled over, clawing at a red patchy area just above her right wrist (behavioral clues). When she was able to talk, she complained of severe abdominal pain. When asked about the abrasion on her arm she began crying.

During the ensuing therapy session, the following story was pieced together. Sheila used to close her bedroom door to keep her father from entering. When she was four, her father, tired of the closed door, burst into her bedroom, slamming the door behind him. He tried to rape but she escaped, ran outside and hid in a shed, hugging her cat for comfort. Her father found her and threatened to kill her cat if she wouldn't let him "play" with her. She hesitated and he grabbed the cat out of her arms. The cat, terrified, scratched her above the wrist. Her father strangled the cat in front of her, telling her that her pet's death was her fault because "good girls should always play with their fathers." He then forced her to have sex with him.

This traumatic incident was encoded in many different fragments which had to contribute their pieces before the full chain of events could be appreciated. The red marks above Sheila's wrist and the abdominal pain were somatic memories (the body's memory system) of the death of her cat and the rape, respectively. When the full memory was pieced together the host personality finally understood and provided other insights into previous behavior. (Sheila had gone on periodic heretofore unexplained rampages of killing cats.) She was able to mourn the loss of her pet. Soon after, the abdominal pain stopped occurring and the red spots on her arm disappeared.

Continued from page 9

state's abuse problems, builds interpersonality communication, and helps patients develop new behaviors and coping skills. As it becomes appropriate, personalities are integrated as traumas are resolved. Treatment continues after integration; therapists help patients develop new social support systems and solidify their gains.

This treatment program is an outgrowth of the 3-P Model of MPD and the BASK Model of Dissociation, developed by Dr. Braun. "To create a more successful treatment program, we needed to understand the underlying causes of MPD (3-P Model) and develop a model for the dissociative process in general," he says.

"To have an actual case of MPD you have to have two or more personalities which are seen repeatedly and are consistent over time," says Dr. Braun. "Anyone can fake it for a day or two, but can a patient hold it together and be consistent over an extended period of time? Ideally, the personalities should be allowed to come out spontaneously, but sometimes hypnosis and drug-assisted (i.e., sodium amytal) interviews are used to facilitate the evaluation."

The patient evaluation during the initial hospitalization includes a psychosocial assessment; psychological testing; occupational therapy, art therapy, nursing evaluations, and an extensive medical evaluation performed by the unit's internist.

Social worker Elaine Shepp, M.S.W., director, Psychiatric Social Services at Rush North Shore, performs a psychosocial assessment which includes gathering a history of the precipitating factors which led to the hospitalization (suicide or homicide attempt; dangerous personalities which need to be treated in the hospital; dysfunction on the job or in the home); a comprehensive chronological family/personal history; and the type and extent of the abuse.

To get as complete a history as possible, Shepp sometimes must talk to several personalities because only certain personalities have knowledge of certain time periods and events. "I find myself changing gears all the time because you can't speak to a five year old the same way you would to a 31 year old," she says. "If I think a personality switch has occurred I'll ask the patient to report with whom I am talking. I then try to figure out where this personality fits into the system and what information he or she can provide."

Through a battery of psychological tests, psychologists are able to help clarify the diagnosis, develop a personality structure profile of the patient, and define areas of conflict and instability. Projective tests such as the Rorschach "ink blot" test are extensively used because they are less obvious in their purpose than the true/false objective tests and they allow patients to express themselves more freely. "Through these tests, more subconscious material is revealed," says psychologist Frank Leavitt, Ph.D., associate professor, psychology and social sciences. "They also show us how much trauma is involved and how close this trauma is to the surface."

An art therapy assessment consists of four different types of drawings, centering on people, themes or emotions. "I get a lot of information about the whole person from these drawings," says art therapist Erin Fisher, M.A.T. "During this initial assessment, I can also see if the patient is appropriate for the art therapy program at this time. Many are unable to control their behaviors long enough to sit down and focus on anything."

The nursing staff's 24-hour observation and data collection (charting) on each patient helps to confirm the diagnosis. Nurses, who help patients deal with the present, evaluate current coping skills. "We run several different types of groups," says unit leader Marilyn Wideman, M.S.N., R.N., pointing to the communication skills group, journal group, a process group, and two survivors groups, one for ritualistically abused patients, the other for non-ritualistically abused patients. "Observing patients in a group setting gives us a feel for how patients are currently coping with the world around them."

Nurses also evaluate patients for suicide/homicide risk. "During the unit's first year, there were more than 150 incidents of self-mutilating behaviors on the unit," recalls Wideman. "This year the figures are half of what they were. It's not that the patient population is different, but that the nursing staff knows how to deal with self-harming behaviors more effectively. We're now able to help patients identify when they are at risk and teach them more positive coping skills."

Developing Trust

"Because they have been so badly abused, our patients look at people in two ways: what can you do for me and what can you do to me," says Dr. Sachs. "Because they have been so threatened by their caretakers, anyone who comes within close proximity is a threat. Our patients are hypervigilant all the time, waiting for the other shoe to drop.

"People with MPD are also pain

phobic," she says. "They have been so badly hurt and threatened that they will do anything to avoid pain. This reaches the point where anything uncomfortable creates the need to automatically turn to a defensive dissociation mechanism."

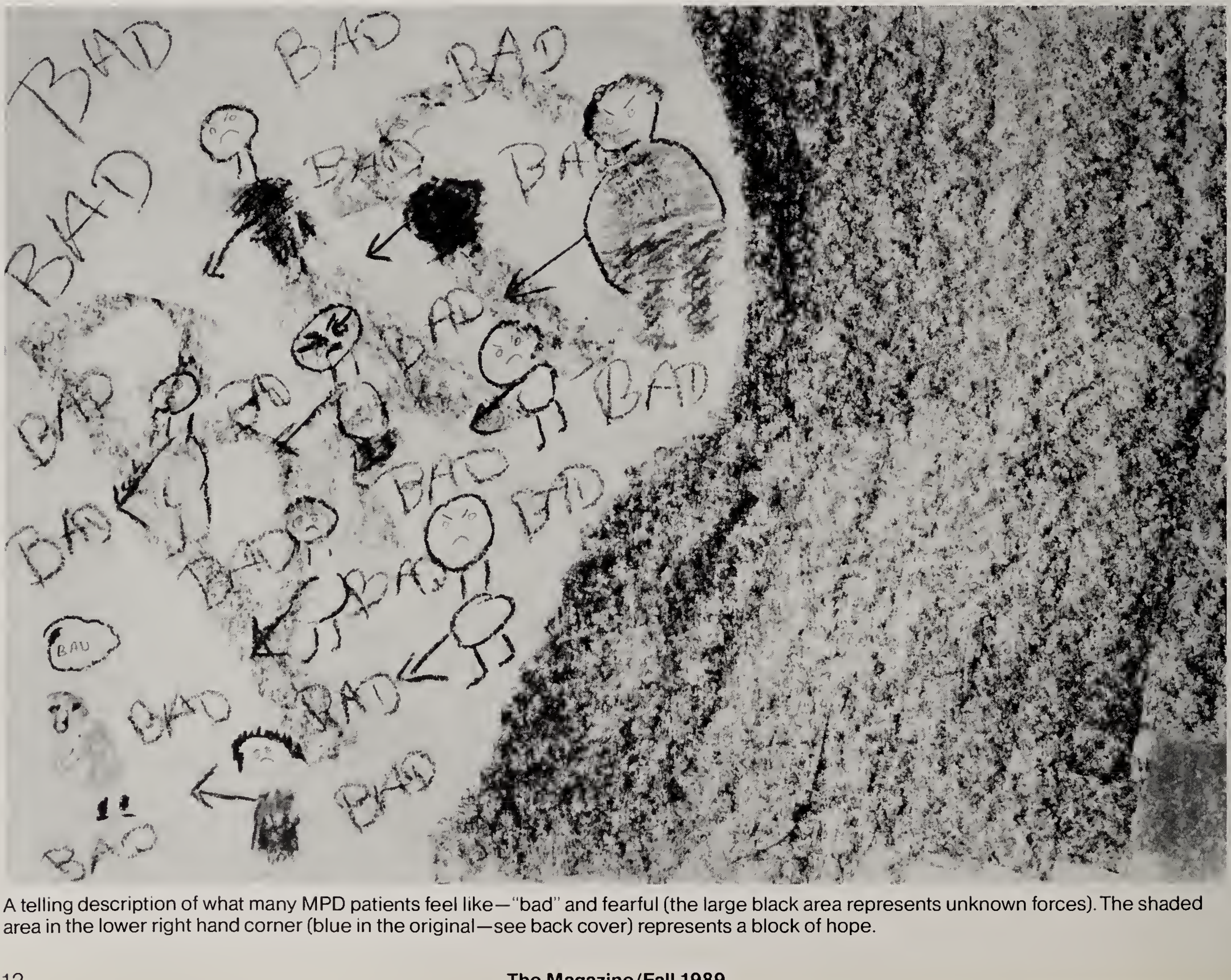
For these reasons, developing trust between patient and therapist is essential. "When I introduce myself to a patient, one of the first things I say is 'I will not invade your physical or psychological space without being invited,'" says Dr. Sachs. "I teach patients to say 'stop' so they have some sense of control in the relationship."

Building ego strength, safety and mastery early on in treatment are also important because patients with MPD have felt out of control and, therefore, helpless all their lives.

Hurry Slowly

Throughout the entire treatment process, "you do a dance, a very delicate dance," says Dr. Sachs. "I tell patients we are going to 'hurry slowly'. They would like to have the entire treatment process completed tomorrow but if that happens they will collapse."

Team work and mutual respect and cooperation between the disciplines are the glue that holds the treatment process together. In weekly staffings, the various disciplines coordinate therapeutic



A telling description of what many MPD patients feel like—"bad" and fearful (the large black area represents unknown forces). The shaded area in the lower right hand corner (blue in the original—see back cover) represents a block of hope.

"We run an intensive care unit for 12 severely damaged, disturbed, chaotic, self-destructive, needy people."

Roberta Sachs, Ph.D.

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approaches to help patients solve problems and address issues. If a patient is suicidal, the doctors focus on memories and abuse related to the suicidal tendencies to uncover relevant past trauma and its effect today; nursing teaches the patient to identify physical and emotional sensations they feel when they are at risk, and, with the art therapist and occupational therapist, help patients to develop more functional coping skills.

A typical day on the unit is filled with group and individual sessions. The team has found that the more structured the day, the less 'acting out' behaviors patients exhibit.

"We have had patients that are so confused they can't hold two thoughts together," Dr. Braun says. He's finding that some medications, many used to treat other conditions, are helping patients.

He is evaluating two cardiac drugs and says "it is only at very high doses that some of our patients are able to carry on a conversation. It upsets some physicians when they hear about how high the doses are but the results are generally fabulous. These drugs must be used with great caution and proper supervision, however," he says.

Dr. Braun has recently begun testing Naltrexone, a drug usually given to help heroin addicts block the effects of the narcotic. The theory behind its effectiveness in certain self-mutilating MPDs is that they are addicted to their own endorphins, a naturally occurring pain reliever, triggered by intense physical activity or pain. Patients create painful situations to recharge their endorphins. The use of Naltrexone in the treatment of MPD is experimental and given to select patients only if no other therapies work.

Explains Dr. Braun: "I had a lady who would bang her head against the wall, several times a day, seven days a week, to increase the endorphins in her system. After trying several medications, I put her on Naltrexone. Naltrexone broke the cycle so the brain endorphins were not giving her the high that they used to and she felt the pain. She stopped banging her head against the wall."

Another aspect of his medication research is the use of anti-seizure medications to control impulsiveness so that less tranquilizer can be administered to control anxiety.

Different personalities may have different responses to the same dose of a given medication, which makes medicating patients with MPD a challenge, Dr. Braun allows.

Working Toward Words

Extensive use is made of nonverbal therapies so patients can "tell" without actually talking about their abuse episodes. Through sand trays, play therapy, art and craft projects, different parts of the personality systems are accessed nonverbally.

As therapy progresses, patients are able to write about their experiences. Each keeps a journal to record feelings, thoughts and memories. Talking about the abuse is usually one of the later steps. "That's the typical progression, from nonverbal to written to spoken," says Dr. Sachs.

One of the first things patients are asked to do is to map what it's like inside themselves. Representations range from astrological presentations (main planets and moons) to configurations of circles or triangles to concentric circles. "I have a patient who split off numerous personality fragments every two years, creating a ring for each of these years," says Dr. Sachs. "Within these rings are five compartments which describe different emotions."

Sand trays are also "helping to structure" tools. In many ways, this nonthreatening form of therapy mimics a child playing in a sand box, only the message being sent can be horrifying. Patients use small dolls, animals and objects to depict what has happened to them.

When Sheila was admitted she couldn't speak a word. "I was shaking uncontrollably. I looked like a rabbit twitching," she remembers. "My mind was racing like the Indy 500. I was switching through several different personalities in several seconds."

Dr. Sachs says "I spent 10 months doing sand trays with her and she hardly spoke to me." "We used finger signals, but we never spoke. Her first sand tray—which took three hours to complete—had over 300 minature pieces of total chaos. When I looked at it I saw all kinds of violence and sexual perversion but I couldn't make any sense out of it."

Sheila persevered, making sand trays three times a week. Organization began to grow out of this work. Parts of the tray began to represent different aspects of the abuse; other parts how she was feeling in the hospital. Eventually she began to write about it in her journal.

"At first, Sheila's writing was very disorganized," staff nurse Nicole Raaz, R.N., recalls. "Page after page with no capital letters, no punctuation, words misspelled, no paragraphs. Her writing styles also changed for no apparent reason. Three lines would have large, looping letters; in the next four lines the writing would be so small I could barely read them. It very graphically represented her internal chaos and disorder. As treatment progressed, her writing became more organized—paragraphs appeared, then capital letters and punctuation."

Raaz runs the journal group on the unit. Patients are asked to keep a journal, because writing is one way they can reveal information they are not ready to talk about. When blocks happen, she asks each personality to write about the incident they are having problems talking about.

Guardian wrote about how upset the children were; Avenger about the torture; and Lampkin drew a picture of a man hitting a child.

"It's important for them to share information because they have different feelings and information," Raaz says. "One may be sad, another frightened and still another angry. This sharing helps open up internal communication and cooperation among the personalities."

Writing promotes more independent work in therapy. "A lot happens between therapy sessions. The journal provides a way for the patient to bring thoughts, feelings and new problems to sessions," says Raaz. "Writing also helps our patients to articulate and understand their feelings—an understanding that is essential to the healing process."

In the journal group, patients help each other by sharing how the writing has been going. "I found parts in my journal that didn't mean anything to me," Sheila says. "I was frightened because I had no idea who had written this part." Someone in the group suggested that "I mark it with a little red asterisk when I encounter the passage later. Eventually those pieces of information can be put together and mean something."

Dealing with Here and Now

"Part of our job as nurses on the unit is to provide a balance between functioning in today's world and working through past abuse incidents," says staff nurse Rose Geary, M.S., R.N.

"When a patient isn't safe enough to have an active treatment program, therapy (looking at past abuses) stops, because our number one priority is the patient's safety," she explains.

The nursing staff provides a consistent, predictable environment which allows patients to grow and change. The staff also helps identify patients' problems in relationships and communication.

Their physical health is also important. In many cases, patients have been injured prior to their admission to the hospital or have pre-existing medical problems. The unit physicians, with the nurses, oversee any medical treatment which may be necessary while patients are hospitalized.

"I illustrate children's books," Sheila says. "I could be working on an illustration and my mind would start racing again. Flashes and bits of memory. Nothing specific. I would try to figure out what was going on but couldn't. I couldn't make it stop so I could concentrate."

Geary, Raaz and the other staff nurses helped Sheila develop a plan so that she could complete an illustration. "One or more personalities were sabataging her," Raaz says. "There needed to be internal cooperation so that the job could be completed. Every personality involved needed to be told what the plan was and problem solve how this plan could be carried out."

"Everyone" agreed that 19-year-old Marie would be "in control" when Sheila needed to finish an illustration because Marie had graduated from art school.

Getting the personalities to talk to each other and work together is an important aspect of therapy. "Lampkin and I were working on a project and she couldn't remember a letter in the alphabet," occupational therapist Heidi Schlatter, OTR/L, says. "I told her to go back in and ask someone. Greta, the child personality who enjoys school, provided the letter. Lampkin came back out with it and we continued through the rest of the alphabet."

Groups have also become an important part of each patient's therapy. "Dr. Sachs and I ran our first outpatient group in the late 70s. It started at 7 in the evening and finally disbanded at 2 in the morning, says Dr. Braun with a laugh. "Patients were switching personalities all the time and it took us hours to get everyone back together again. Needless to say we've gotten better at running groups."

Groups on the unit are now mandatory, to help patients break isolation patterns, and highly specialized to address specific issues such as assertiveness training, communication skills and coping skills.

The craft group, run by Schlatter, focuses on what to do when problems arise. Some patients have problems concentrating on simple tasks; others don't know how to read; and some see a tool and think it's something else. Many have a hard time solving simple problems. "When you, as a normal person, run into a problem, what do you do? You imagine all the possible solutions that could be. But with people with MPD, their solutions

"I find myself changing gears all the time because you can't speak to a five year old the same way you would to a 31 year old."

Elaine Shepp, M.S.W.

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are stuck somewhere in personality A, personality B and personality C, and all of these solutions are based on ineffective coping. I can see an MPD patient switching from A to B to C and back to A again, trying to find someone to solve the problem," she says.

For example, most people wouldn't have problems choosing a greeting card for a friend; for a person with MPD, the experience can be overwhelming. Explains Schlatter: "Our patients can stand in front of a greeting card display for ten minutes, trying to decide what to buy. Through their facial expressions and body posture, I can tell they are switching from person to person, having an internal family battle, so I intervene and do on-the-spot negotiating/teaching. 'Who's asking for what? What is within your budget? How can we negotiate between those personalities who each want different things?'"

Over the years, Schlatter has developed her own 3-P model which she applies to each patient activity: preparation (preparing patients for what they are going to experience); practice (helping them plan for how they can best handle the situation) and process (talking about what happened afterwards). "O.T. creates situations or opportunities where patients can experience mastery, cope with new experiences, and learn healthy problem solving," she says.

Group activities also help patients with confinement problems. As children, many were confined in small areas or made fun of or abused in group situations. They feel that something bad will happen whenever they are in a group.

"I spilled my milk at the dinner table," says five-year-old Christy, tears streaming down her face. "I didn't mean to. My arm jerked. Mother reached across the table and hit me across the face."

"As children, our patients believed that if they made a mistake, no matter how small, they were bad," says Fisher. "Art therapy gives our patients an opportunity to use their creativity toward some type of self-realization." The studio art and theme groups also help build self-esteem and provide opportunities to practice control and taking risks.

The studio art group is like a studio class. Patients work on individual projects. "There is nothing more threatening than a blank, white sheet of paper upon which you are expected to create something wonderful," says Fisher. "I start my patients with very nonthreatening materials—painting with sponges, string and rollers or finger painting."

Fisher sees many of the child alters in this group. "Eileen, one of Sheila's adult personalities, would be painting. The next thing I knew, there's a mischievous grin, a twinkle in the eye, and the whole composition of the painting changes. Then a switch and Eileen is back, confused as to why the painting looks the way it does. I explained that one of the children had been out briefly, probably Lampkin."

The theme group, geared to the older adolescent and adult personalities, is more holistic in its focus. By working through self-perception in art, Sheila was able to see herself as human, not as scattered objects or pieces. "It's also hard for patients to step back and to look at the whole picture and all its parts," Fisher says. "Many of those parts represent the abuse, guilt and torment. Our patients have trouble accepting the 'bad' with the 'good.'"

Good Girl/Bad Girl

The focus of all therapy on the unit is to help patients gain more of a balance between their emotions and intellect. "Our patients have always dealt with their emotions in ways that have now become ineffective and unhealthy," says Schlatter. "Patients frequently re-create situations or opportunities to berate, humiliate or hurt themselves or their work, because feeling bad about themselves is a more familiar, comfortable feeling. When they were children, feeling good or happy was often followed by pain."

The "good girl syndrome" was a typical response for Sheila. She remembers: "When memories of an abuse incident would surface I would always say, 'I'm going to be good. If I'm good this will all go away. It's all my fault so if I'm really good and I don't tell anyone and I take care of myself and I handle it all by myself, then it will all be better.' It never was. The emotions and memories escalated."

Sheila would switch out of the "good girl syndrome" to more destructive, aggressive acts. "I used to cut my arms with a knife. I never knew what I was doing, but the next thing I would remember was looking down at bloody arms with knife cuts all over them."

Nurses gave her "I need help" cards to signal a crisis was approaching. Fisher redirected the anger. "I taught Sheila to draw it out by making scratches on paper rather than her arm. That helped her release the tension."

"I learned when to say I needed help," Sheila says. "The staff taught me to pay more attention to myself."

Helping the Children

The child personalities are usually the "keepers of the worst secrets." A non-threatening treatment process, using materials and procedures found in everyday play situations, helps bring the children "out" and allows them to "talk" about their secrets.

The play room on the unit looks like a child's play room, filled with toys and games. The art therapy/occupational therapy room is stocked with crayons, paper, finger paints, sponges and clay.

Play and art therapy permit a sense of spontaneity and freedom, coupled with a feeling of mastery. They also give the child personalities the opportunity to develop good relationships with an adult. "Many of our patients had been hurt and abused when they were playing," says Schlatter. "We emphasize that we have only safe play here, that there is no right or wrong way to play.

"As with most children, you have to set limits, like don't put the paint or papier-maché in your mouth. Sometimes it reminds me of the children I used to teach, giggling and calling out for attention all at once," Fisher observes. "Only here we're talking about four and five year olds in 40-year-old bodies."

Therapists report evidence of cross personality learning, that is, what one personality learns gets passed on to others. That's the premise of the play group: teach play to the child personalities who pass this knowledge on to the adults.

Uncovering the Worst Last

"In therapy, father or male sexual abuse always comes out first, because in our society, mother sexual abuse is the ultimate betrayal, and therefore, it's toward the end of therapy that you discover it," says Dr. Braun. Other horrifying memories also remain hidden to the very last.

"Some memories are so painful to recall that patients need to be protected when they are revealed," explains Wideman. "Patients are asked to take a memory and explore it every way but emotionally. They then go into the quiet room to relive the memory emotionally. Nurses provide safety, support and orientation to the here and now after these traumatic sessions."

A physician, psychologist and nurse are with the patient throughout the procedure, probing into the crevices of the memory. These very traumatic events usually create a shattering in which the memory of the event may be stored in several personalities and many fragments. All need to be explored.

"It started as disjointed bits and pieces," Sheila remembers. "I saw my father, then my two older brothers. I was in my bedroom. I called out for my mother. Then darkness and screaming and howling."

Drs. Braun and Sachs continue to prompt, trying to help her piece the memory together. Personalities and fragments come in and out. A child begins crying. Eventually the keepers share their parts of the secret and Sheila is able to recall the whole event. "My brothers raped me," she says dispassionately. "My father decided to use me as their sexual training ground.

"I can look at the incident now and find it disgusting and not blame myself, but it took a long time before and a lot of work that afternoon in the quiet room to reach this point," she says.

We Becoming I

The integration of personalities usually is a formal experience at the end of the therapeutic process, but at times it can happen spontaneously as barriers are removed.

Drawing on past experience, Drs. Braun and Sachs have found that integrations are only successful if all the groundwork has been done. "All significant conflicts and issues between personalities must be resolved," he says. "There has to be a mutual desire to come together or no reason to stay separate because the issues have all been resolved. We will only do a premature integration if there is a crisis situation and we need to provide some protection for the patient. We'll ask for an immediate coming together of some parts to protect the body itself. We don't expect it to hold but in some cases it is a good stop gap measure."

There is loss and gain with each integration. "I was afraid the first time some of my personalities were integrated," Sheila recalls. "I felt like some part of me was going to die." Once the integration was completed, Sheila experienced the gain. "I had more energy and was capable of doing more things. I never realized how much energy was spent keeping things separate."

Other patients report improved physical health. One overweight patient went from being an insulin-dependent diabetic to someone who could manage with an oral hypoglycemic only, with no appreciable weight reduction. Normally, weight loss can significantly help a diabetic. In this case, it was the integration of the personalities, and concomitant decrease of stress on the body, that caused the improvement.

"We know within the first three

"Maybe some day, 'we' will be 'I'."

Sheila, MPD patient

months of an integration if it's going to hold," Dr. Braun says. "If it doesn't, we need to go back and do some more work. Either issues haven't been completely resolved or material hasn't been uncovered."

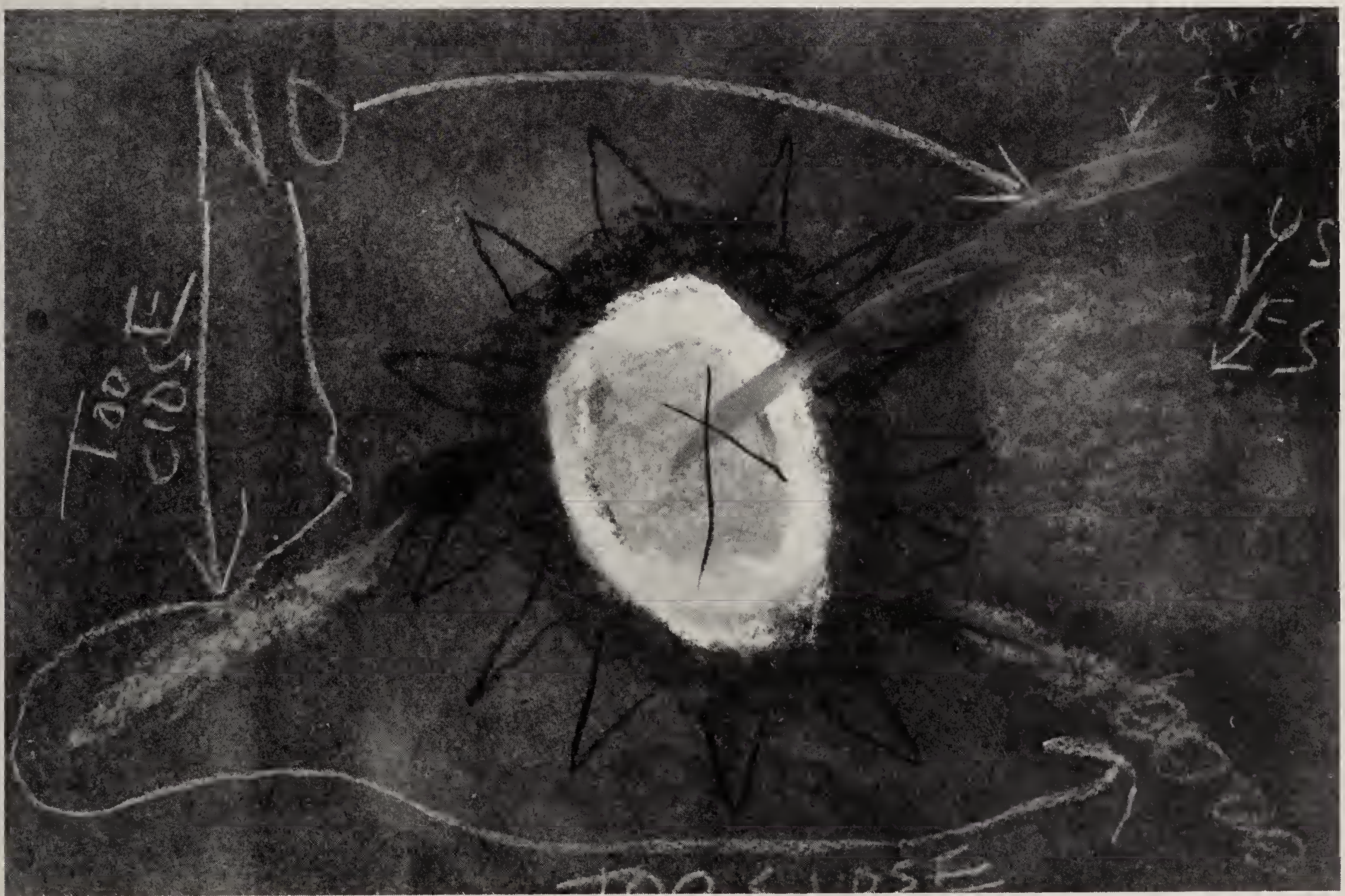
"It's a mistake to think that once a person has been fully integrated everything is wonderful," Dr. Sachs notes. "Patients need to deal with coping as a whole person. They can no longer switch from one personality to another. Treatment usually continues for at least two years beyond the final integration, otherwise the first time a major life trauma comes along, they'll split or fragment."

Part of the therapeutic process is to prepare patients for these life traumas. Using a technique called hypnotic relapse prevention, Drs. Braun and Sachs talk patients through some of the worst things that could happen to them. That way they are prepared should these crises arise.

But one of the main thrusts of all the therapeutic processes is learning to accept all of the personalities inside and understanding that without all of their participation the body would not have survived.

"I'm feeling better about myself or should I say 'we're feeling better about ourselves,'" grins Sheila, who is home now and back at work. Most of her personalities and fragments have integrated. The remaining therapeutic work will be done in Dr. Braun's patient office.

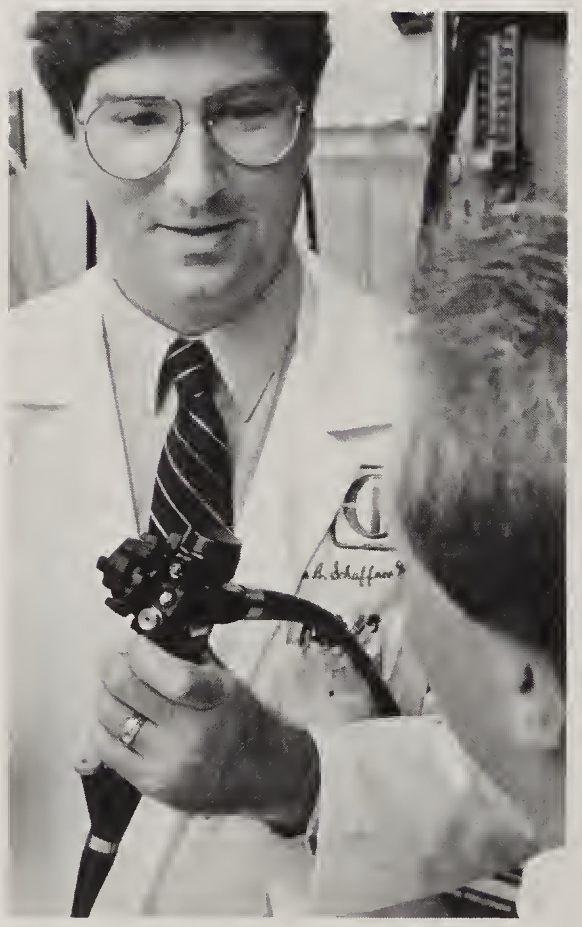
"I still have some moments of panic, of depression," she says, "but I've learned to slow down and to ask for help when I need it. Maybe some day, 'we' will be 'I'." ⊕



In patient art work, the vagina (center) depicts years of sexual abuse. The arrows surrounding it provide protection; the "X" at its center is one way the patient therapeutically stopped the abuse.

Clinical Trials: Finding a Better Way

By Carolyn Reed



Digestive disorders are subjects of clinical trials conducted by John Schaffner, M.D.

For hundreds of years, medicine was more art than science. Physicians used a combination of intuition and guesswork, hand-holding and folk remedies to manage their patients. There was little an individual physician could know about what caused disease or what remedies really worked, much less which one worked better than another, or didn't really work at all.

By the early twentieth century, however, this began to change markedly. First, the education of physicians itself was overhauled, following the recommendations of the Flexner Report. A physician's education was to be firmly grounded in the sciences. Then, in the 1930s, the age of antibiotics dawned, with the discovery and use of sulfa drugs. For the first time, ever, physicians saw the possibility of cure for some diseases.

And so, in a sense, medicine and science married. They have marched in step ever since, moving forward on a never-ending quest to understand what causes disease, to evaluate new treatments and find a better way to fight, even cure, what ails and kills us. The process is what medical research is all about. And where it is most in evidence to those of us outside the lab, is in the proliferation of clinical trials. By some estimates, there are 2,000 of them underway, double the number of just 10 years ago. You may even know someone who has participated in these kinds of studies, serving as a kind of "partner in science."

Searching for Partners

You've seen the ads: a single column black-lined box in the *Chicago Tribune* or *Chicago Sun-Times* announcing "Depression Study" or "Gallstone Study" or inquiring, "Do You Have Heartburn?"—followed by a description of the qualifying symptoms and an announcement that a new medication (or treatment technique) is being tried, and a number to call for more information.

Or the pitch may be more subtle. A small article may appear in the paper's back sections, or in a special health column or section. The one paragraph report begins, "Researchers at Rush-Presbyterian-St. Luke's Medical Center are conducting a national study of a new treatment for...." or "Studies in England show some hope for a vaccine....(Rush) is one of two centers conducting studies...and is seeking 100 volunteers...." Not uncommonly the headline is brief and blatant: "Herpes Sufferers Sought", "Insulin-Dependent Diabetics Needed."

What all this copy is describing are *clinical trials*: studies of new treatments, be they new medications, new combinations or applications of existing medications, or new medical devices like hip implants, which have moved out of the laboratory and beyond their experimental use in animals, to be tried in human beings. This process is one required by the federal Food and Drug Administration (FDA). Only after a new treatment has successfully completed at least three phases of testing (trials) in ever larger patient populations (Phase I, Phase II and Phase III) can the new treatment be deemed a safe and effective standard form of therapy. Until the process is complete, the new treatment is considered experimental and the drug or device is investigational.

This year in the greater Chicago area, there are dozens of such studies underway, not just at Rush, but at all the major academic medical

"If you have any form of indigestion, you'll probably fit in one of our studies."

John Schaffner, M.D.

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centers, as well as a few community hospital sites. Each study needs not ordinary people off the street (although there is a form of early clinical trial that does use healthy volunteers; more on that later) but very specific types of patients to answer the very specific questions a particular study poses. The objective: to find a better treatment than what is currently available through your personal physician or local clinic. And in the case of a catastrophic illness like AIDS where no cure exists, to find something to control its progress.

Which Disease? What Type of Patient?

At the Medical Center, studies are underway in many areas, looking at new forms of treatment for chronic as well as acute, life-threatening disorders.

The diseases under the clinical microscope include myriad forms of cancer, AIDS, diabetes, end-stage kidney failure, hypertension (especially to fight its long-term complications), a variety of digestive disorders—heartburn, gallstones, ulcers—and heart disease. Physician/scientists are also studying a number of devastating neurological disorders: Parkinson's disease, Alzheimer's disease, multiple sclerosis. The list is long and goes on, but it underscores the point that the final answers are by no means in for most diseases and disabilities. And for patients who are suffering, an experimental treatment with unknown long-term consequences just might be worth a try.

John Schaffner, M.D., associate professor of internal medicine, is conducting studies on various digestive disorders. "The biggest thing we have going right now are trials for a brand new medication for severe heartburn. In fact, if you have any form of indigestion, you'll probably fit in one of our studies."

Indigestion may strike you as a relatively minor ailment to study. But Dr. Schaffner and his colleagues see patients with indigestion unlike any you'll see in an Alka-Selzer commercial. Over 100 patients are currently enrolled in digestive disease studies.

"These patients really are suffering. Ultimately, they may have to undergo surgery if we can't heal them. Right now we're evaluating a new drug called omeprazole. There's only one other Illinois site using it and, to date, it's the only medication that works for resistent gastro-esophageal reflux disorder."

Resistent gastro-esophageal reflux disorder, or GERD, is a severe form of heartburn. The stomach acid regurgitates so frequently in these patients that ulcers form in their esophagus. Thirty-one-year-old Eric Olson is a study participant. He has suffered from GERD for about five years and in the past year has volunteered for two studies on GERD treatments. Before he met Dr. Schaffner, he said he lived on Tums and Rolaids, and dreaded the business lunches so critical to his career success as distribution and operations manager for a magazine wholesaler.

"I learned about Dr. Schaffner from my tennis partner. I'd had my heartburn problem for three or four years and he thought I really ought to see a specialist.

"First Dr. Schaffner tried me on Pepcid. (Pepcid is the current standard form of treatment for GERD.) And for a few months I was better. But the ulcers came back. Then he mentioned he was starting some studies of an experimental drug. It took eight weeks on the medication to heal my ulcers. But now I can't make myself get heartburn. This stuff is fantastic."

The Hard Part: Following Protocol

Olson was fortunate the drug in question worked and worked dramatically. Not every clinical study has such an obvious positive outcome, although it would be unusual for a medication or procedure to reach the stage of a nationwide trial involving hundreds of patients and not offer some therapeutic improvement over previous treatments.

However, what makes some patients reluctant to participate—and some physicians reluctant to even raise the issue—can be the study *protocol*: the very specific manner in which the study is conducted. Study participants may be asked to visit the physician's office weekly. They may have to have blood drawn frequently and undergo certain invasive tests.

In Olson's case, to document whether and how well the drug is working, he's had to visit Dr. Schaffner many times and have a diagnostic procedure called *endoscopy* performed. A flexible tube outfitted with a light and a miniature camera is slipped down his throat. It's not hard to see why some people think of study participants as "guinea pigs."

"I call them gag sessions," says Olson, laughing. "They're not pleasant, but I'm getting used to them. I come in before work and can be out in about 40 minutes. Also, I have had some side effects from the drug to contend with: gas and, in the beginning, headaches.

"But when you're suffering like I was, it's worth it."

Also, some studies involve the use of a *placebo* (an inert substance

"...we need to know 'Is the new drug really better, or are (patients) just responding to the good supportive care and attention they get being part of a study.'"

Catherine MacLeod, M.D.

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that has no effect whatever on the person taking it) in order to accurately gauge how well the new medication is working in those who are taking it. Patients are *randomized*: there is an equal probability an individual will be selected for the study group (to receive the new medication) or the control group (placebo). And the study may be *blinded*: neither the participant nor the investigator knows who is in which group until the trial is over.

Catherine MacLeod, M.D., assistant professor of pharmacology, notes why such placebo-controlled studies are so important: "Some patients react to good care and so we need to know, 'Is the new drug really better or are they just responding to the good supportive care and attention they get being part of the study?' Also, we need to know about side effects. With many chronic ailments the disease will ebb and flow. Are the patients better because their condition is in remission or is it the medication making things better?

"We need to know the answers to these questions to determine the true value of a new treatment."

Fortunately, in many of these kinds of trials, if the new medication proves beneficial, those who participated on placebo may receive the new treatment after the study concludes.

Of course, some patients would dearly love to be in a study, but they don't qualify. According to Rush researchers, these are among the reasons patients might not qualify for a study: they don't have just the right disease or disorder being studied; they may have had too many previous treatments (this is particularly the case with cancer patients) or be on a present treatment regimen they are not willing to forego for the study. Also, some studies don't allow female participants of childbearing age to avoid the complication of pregnancy. Age and on rare occasions race may also preclude participation in a trial.

In the Clinical Pharmacology Unit, Director Catherine MacLeod, M.D., tests new drugs.

Healthy Patients, Risks Unknown

Long before large numbers of patients try a new medication for a specific disease, it's tested in small numbers of healthy patients. These are called *Phase* I trials and this is where clinical research begins. At Rush, many Phase I trials are conducted in the Clinical Pharmacology Unit. Dr. MacLeod is the unit's director. She works closely with major pharmaceutical firms which contract with her to have their newest promising products evaluated.

"My main focus is to take a drug—knowing what it does in animals—and try it in human beings. Phase I studies look at toxicity primarily: how much can a patient tolerate? And what exactly does the drug do in the human body? Does it do anything at all and, if it does, what kind of side effects occur?

"This is really the first time we can tell if something might have real promise for patients. For example, we tested a new drug aimed at patients with chronic obstructive lung disease. In my healthy volunteers, the drug caused shortness of breath at certain high doses, as well as other side effects."

Dr. MacLeod documents a drug's actions closely by monitoring her subjects rigorously. In some cases they may stay all day at the unit or overnight in the dormitory, for 24-hour monitoring. Most of her volunteer subjects are students from area medical and dental schools.

"They make excellent study subjects: they're healthy, they follow instructions, and I can teach them a little about pharmacology and the value of what they're doing while they're working with me."

At any given time, Dr. MacLeod has an active list of up to 200 volunteers. "They learn of our studies through the posters we put up and by word of mouth. The first time they come, they're a little nervous, but when it's over they usually ask, 'When's the next study?'"

As with many clinical studies, these healthy volunteers receive a small stipend for their participation. It may range from a few dollars to over $500, depending on the level of their involvement: how frequently they must come to the unit, how many test procedures must be done and how long it all takes.

Not all new medications undergo Phase I testing in healthy subjects.

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Where Clinical Research is Conducted at Rush

Clinical research is conducted in virtually all medical, surgical and nursing departments in the Medical Center. However, there are several sections, programs and centers where the effort is particularly intense: many studies are underway, looking at cutting edge treatments, involving large numbers of patients. A list of these follows. All programs are housed on the Medical Center campus unless otherwise noted.

- **The Section of Infectious Disease,** under the direction of Stuart Levin, M.D., the James R. Lowenstein Professor of Internal Medicine. The Section conducts clinical research in many viral and bacterial disease areas including hepatitis, AIDS, Lyme disease, herpes, chlamydia and septic shock. The Section last year was designated part of the NIH AIDS Clinical Trial Group (ACTG) and has over 20 protocols underway for AIDS treatments alone.
- **The Section of Medical Oncology,** under the direction of Jules E. Harris, M.D., the Samuel G. Taylor, III, M.D., Professor of Internal Medicine. The Section has over 1,000 patients enrolled in various national clinical trials involving the use of adjuvant and multimodality approaches to all stages of cancer. New treatments tested in Phase I/II studies include the biological response modifier, interleukin-2, interferon and now in a Phase III trial, a colon cancer vaccine. Section members have also developed a number of innovative combination chemotherapy/radiation therapy treatments for the management of sarcomas, head and neck cancers and advanced breast cancer.
- **The Section of Rheumatology,** directed by Thomas J. Schnitzer, M.D., Ph.D., the Willard L. Wood, M.D., Professor of Rheumatology. Extensive studies of new treatments for osteoarthritis and autoimmune disease.
- **The Treatment Research Unit (TRU)** of the Department of Psychiatry. John Zajecka, M.D., assistant professor of psychiatry, heads the program. The TRU offers investigational treatments for a variety of severe psychiatric disorders, including depression, obsessive-compulsive disorder, and panic and anxiety disorders.
- **The Rush Alzheimer's Disease Center,** Jacob Fox, M.D., director. Serving one of the largest Alzheimer's patient populations in the country, the Center has studies underway of promising memory-enhancement treatments, including THA, Captopril, and intraventricular Somatostatin.
- **The Chicago Center for Clinical Research**, a division of the Department of Internal Medicine, housed at River City, 800 S. Wells Street. Michael Davidson, M.D., assistant professor of medicine, is the program's medical director. The Center focuses primarily on new treatments for high cholesterol, asthma, heart failure and emphysema.
- **The Clinical Pharmacology Unit** of the Department of Pharmacology, is directed by Catherine MacLeod, M.D. In addition to Phase I trials of new drugs in healthy populations, the unit also conducts Phase I and certain Phase II trials of investigational drugs in particular disease populations, including AIDS patients, heart failure patients, hypertensive patients, liver disease patients and Parkinson's patients.
- **The Clinical Research Center,** a division of the Department of Preventive Medicine, housed in suite 1030 of the Professional Building. James A. Schoenberger, M.D., the Charles J. and Margaret Roberts Professor and chairman of the department, directs the center which has focused on studies related to the treatment of hypertension, hypercholesteremia, and arrhythmia (in cooperation with cardiology).

Clinical research is also conducted through various disease specific centers (e.g., the Rush Cancer Center, the Rush Multiple Sclerosis Center, The Thomas Hazen Thorne Bone Marrow Transplant Center). Other studies are underway in disease-specific sections and departments: the sections of cardiology, digestive diseases, endocrinology, nephrology; the departments of neurological sciences (the Parkinson's clinic), anesthesiology (the pain center), orthopedic surgery, etc.

All forms of research directly involving human patients—as well as animal studies, tissue studies, studies that look at data culled from patient charts retrospectively and epidemiologic (population) studies—are overseen by the Office of Research Administration. Each year in December the Office issues an annual report of research activity at Rush. A copy can be obtained by writing the director, W. Randolph Tucker, M.D., in care of the Medical Center.

Three members of Rush's Human Investigation Committee: Randolph W. Tucker, M.D.; Janet Wolter, M.D., the chairman, and the Rev. Chilton Knudsen.

Continued from page 20

The exceptions are primarily found in treatments for cancer. There, the testing is reversed, in the sense that the very sickest patients—those for whom no alternative treatment exists currently—are offered the new medication first. What's more, as the study progresses to Phase II and Phase III, patients don't receive a placebo, per se. The new therapy is compared with whatever is the current standard treatment.

Research Watchdogs

While news of a new treatment and the opportunity to participate may strike a patient as a bolt of good fortune out of the blue, by the time he or she even hears about a study, the protocol and the paperwork and the value of the research have usually been scrutinized for months by at least a dozen experts.

The scrutiny begins with an *institutional review board* or IRB. At Rush, the IRB is the H.I.C., or Human Investigation Committee. Its members include physicians and basic scientists, an attorney, a medical student, a nurse researcher, a minister, and one nonscientist from outside Rush, to represent the community-at-large. The director of the Office of Research Administration and its protocol coordinator serve as permanent alternate members.

Many academic medical centers—including Rush—have had some form of IRB since the mid-1960s, but since 1974 federal law has required that all federally funded research involving human subjects be reviewed and approved by such a committee.

"The committee exists to safeguard our human research subjects," says W. Randolph Tucker, M.D., director of the Office of Research Administration. "We—and committees at many other institutions—are guided by ethical principals which grew out of the Nuremburg Code. The current ethical principles which guide us evolved from two important reports: the Declaration of Helsinki (issued by the World Health Association in 1964) and the 1978 Report of the National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research (The Belmont Report)."

At Rush, all human research, regardless of funding source, is reviewed and voted on by the Human Investigation Committee. The committee meets twice a month. Janet Wolter, M.D., professor of medicine and a medical oncologist (cancer specialist), chairs the 10-member H.I.C. She has served nearly 15 years. She also serves as chair of the Illinois Cancer Council's IRB.

"Yes, it is a lot of work," she admits, "and as chair I read everything, even the animal studies. But I have found that the more you do it, the better you get."

But even before Dr. Wolter and her committee begin their extensive review process, a research proposal must first pass muster with the staff of the Office of Research Administration. The first person to see a human study is usually the protocol coordinator, Eva Wimpffen. She has been reviewing research proposals for 18 years.

"I make sure the application is complete, and I read through the study to be sure a lay person can understand it. On the Subject Information Sheet (SIS), I look particu-

> *". . . I do have some trouble seeing us repeat studies that have already been done, not in Outer Mongolia, but in London."*
>
> **Janet Wolter, M.D.**

larly for accuracy and clarity, to be sure it correctly reflects what's been described in detail in the study protocol," she says.

If she has any questions, she writes them down and sends her comments back to the researcher who must answer them before she passes the proposal on to the committee members. Twice a day a Research Administration staff member delivers proposals to committee members and to researchers, to keep the process moving along.

Dr. Tucker also initially reviews proposals. "It generally takes at least six weeks for all the committee members to review a study and approve it after I've seen it," he notes. "Committee approval is required; the study won't be funded and the research can't move ahead without it."

All committee members must review all studies that put human subjects at risk. This amounts to about 25 study proposals a month. Whatever potential risks a new treatment or device may pose to a person must be considered in relation to the benefits the study's findings may reap for not only that individual but for future patients and society as a whole. "In many studies the benefits can only be seen for future patients," notes Dr. Tucker.

Only after all members have reviewed it and signed off on it can a study proposal be brought to a vote before the committee.

Dr. Wolter says the committee members also review the SIS very closely and have occasionally asked a researcher to reorganize his or her information and questioned whether a certain number of procedures was really necessary.

"We'll look at how much blood they're drawing as part of the protocol and we'll ask, 'Is that really necessary?' and if it turns out it is, then we'll say, 'Well, put it up front in the SIS, so the patient will realize exactly how many times and how much blood will need to be drawn.'"

If any member questions the wording of a part of the proposal, it's noted and sent back to the researcher. If the committee has myriad questions and is having difficulty getting answers to those questions, the researcher may be asked to appear before the committee.

Some researchers—including those at Rush—have criticized this extensive review process as too time consuming and not always necessary. Indeed, clinical research does proceed more quickly in Europe than in the U.S., and it is not uncommon for U.S. trials to involve medications and medical devices already approved and in use in Europe.

"Mostly it's a pretty valuable protection," says Dr. Wolter, "although I do have some trouble seeing us repeat studies that have already been done, not in outer Mongolia, but in London. It is costly, and it takes a lot of time."

Looking at New Treatments

Yet many studies do look at new treatments never before tried in large numbers of patients anywhere. And for them, certainly caution is warranted.

Recently Rush researchers and patients participated in the first large scale clinical trial of a genetically engineered substance to treat anemia in hemodialysis patients. The successful completion of the study of recombinant Human Erythropoietin (r-HuEPO) in hundreds of patients nationwide has resulted in swift FDA approval of this synthetic hormone. The hormone is currently still under study for use in AIDS patients (who also suffer anemia) and for subcutaneous use in patients on peritoneal dialysis for their kidney disease.

Stephen M. Korbet, M.D., assistant professor of medicine in the section of nephrology, directed the Rush portion of the study. "With hemodialysis, 25 to 50 percent of patients suffer anemia to the extent they have to rely on regular blood transfusions to maintain their red blood cell count," says Dr. Korbet. "And of course, there are some risks to transfusion. So these patients were eager to try recombinant Human Erythropoietin."

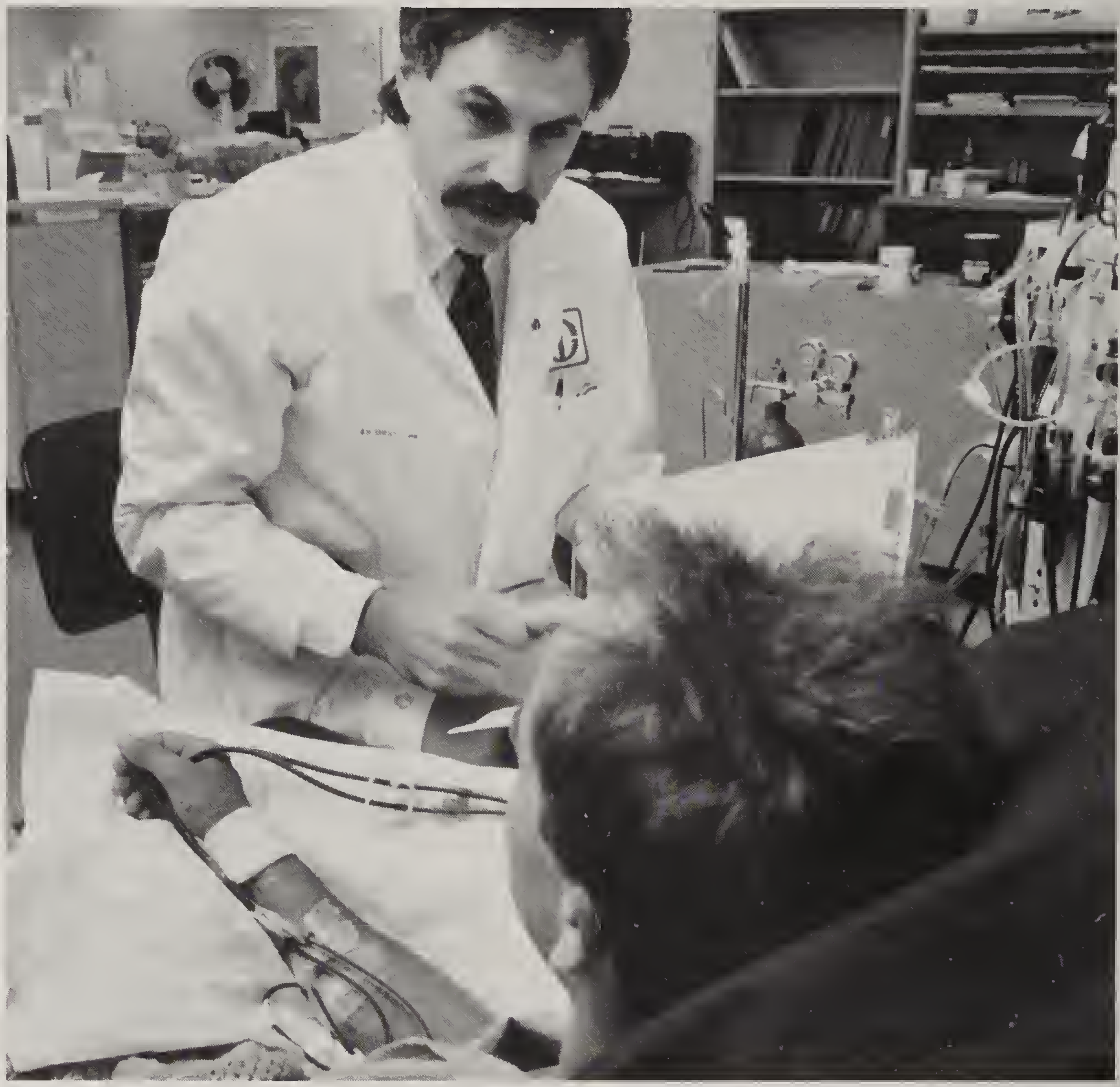
But not every patient Dr. Korbet approached about the study during the past two and a half years said yes. "A few patients said no. They were afraid, I guess. I think if you don't perceive yourself as that bad off, you figure, why risk something unknown?"

One patient who says she didn't feel all that bad but still decided to volunteer for the study was 69-year-old Lorraine Passovoy. This River Forest grandmother has been on dialysis for three years and, because of her age, is not eligible for a kidney transplant.

"My kidney failure came on slowly, so I didn't really know how bad I felt until I took the EPO. Then I discovered there's a big difference between feeling O.K. and feeling good!"

Mrs. Passovoy recalls Dr. Korbet drawing her a picture of a normal kidney to show how it manufactures erythropoietin to stimulate red blood cell production in the bone marrow. And there was lots of paperwork involved, but that didn't intimidate her. "I knew (going into

Stephen M. Korbet, M.D., checks hemodialysis patient participating in a clinical trial.



the study) I'd have to sign lots of forms."

Patients suffering from kidney failure-induced anemia tire easily and may possess a kind of pasty pallor that makes them look as tired as they feel. The thought of going for a walk was out of the question although now Mrs. Passovoy goes walking and even visits her local "Y" for a periodic swim.

Because of the remarkable effect r-HuEPO has, some clinicians believe this synthetic hormone will become as important to dialysis patients as insulin is to diabetics. Mrs. Passovoy also saw the diabetes connection.

"I had a grandmother who died of diabetes just before insulin became available. I don't know if she would've tried it, had it been offered. But when this came along for me, I said yes."

How to Become a Clinical Study Participant

Do you have a chronic ailment? It might be heartburn or gallstones, diabetes or hypertension, panic attacks or depression, asthma or arthritis. Even cancer. Studies evaluating new treatments in comparison with standard therapies are underway for these and many other diseases at the Medical Center.

How can you be considered for a study? First, ask your own physician. Or, call a major medical center like Rush and ask the appropriate department or section or office of research administration. If no such center exists in your area, contact the local or national office of the disease association that serves patients like you (e.g., the Arthritis Foundation, your local chapter of the American Heart Association, the United Parkinson's Foundation, etc.). Ask them for information about studies underway in your area.

Cancer patients or their physicians can call a toll-free line at the National Cancer Institute (1-800-4-CANCER) to find out what trials are underway in their region.

Why participate in a clinical trial? "The very least you can expect in a clinical trial is the most conscientious administration of the most current standard therapy," says Samuel G. Taylor, IV, M.D., professor of medicine and a specialist in medical oncology (cancer). "Studies have shown that people receiving the standard treatment offered in a clinical trial do better than patients receiving the very same therapy outside the context of a study.

"These studies compare the best current therapy against what experts believe might be better than the current therapy—better in the sense of either more effective or less toxic. Consequently, the patient has a 50/50 chance of drawing the current best treatment or one that might be better. Either way, the patient is a winner."

Helping the Sleepless Find Rest

By Carmeline Esposito

Rosalind Cartwright, Ph.D., the Sleep Center's director, is a nationally known sleep researcher.

Imagine going to bed at night for a good night's rest. You anticipate drifting into deep, relaxing sleep. Come morning you expect to awake rested and refreshed to meet a new day.

For people who have a sleep disorder a good night's sleep is only a dream. And, for many, problems with sleep can persist for years.

For the last decade, the Sleep Disorder Service and Research Center at Rush-Presbyterian-St. Luke's has been helping the sleepless find rest through a nationally recognized program of treatment and research.

"For years, people thought that when we slept, our brain was turned off and suspended in a passive state. Not so. The mind is never off; we just change channels," says Rosalind D. Cartwright, Ph.D., chairman of the Department of Psychology and Social Sciences and the center's director. When rapid eye movement (REM) sleep was identified and monitored by William Dement, M.D., (now director of the Sleep Disorders Center at Stanford University) in the early 1950s, the field of sleep research began to blossom.

"We know," says Dr. Cartwright, "that the brain is very active and that dreams occur when there are periods of rapid eye movements (REM) which go on periodically throughout the night. The eyes are darting and in an excited state while the body is muscularly paralyzed."

Disorders and problems evaluated at the center include excessive daytime sleepiness, narcolepsy (falling asleep at inappropriate times), apnea, insomnia, irregular sleep habits, emotional problems, and sleep behavioral problems such as sleepwalking, nightmares, bedwetting, teethgrinding. In addition to Dr. Cartwright, the work of the center is carried on by psychologists Stephen Burton, Ph.D., Charmane Eastman, Ph.D., and Stephen Lloyd, Ph.D.; Howard Kravitz, D.O., a psychiatrist and medical director, and Ruzica K. Ristanovic, M.D., a neurologist and specialist in sleep disorders. Ten sleep lab technicians monitor patients' sleep, record data, and assist in research efforts. Eleven physicians serve as the center's consultants.

Between 60 and 70 percent of all patients who come to the center are apneics, or are being screened for apnea. "Apnea," Dr. Cartwright explains, "is the bread and butter of every sleep disorder service."

The Tell-tale Snore

Apnea, from the Greek, means "lack of breath." It can be slight or severe. It can cause sudden death. For apneics, breathing stops periodically during sleep. These stoppages can last from 10 to 60 seconds or more. In severe cases, breathing ceases hundreds of times a night.

Apnea can occur at all ages but a typical case is a middle-aged man over 40 who is also overweight. Loud, habitual snoring is usually the first and most powerful indication of the disorder. Apnea has also been found to run in families.

There are two main types of sleep apnea: obstructive and central. Obstructive sleep apnea is the most common. One cause of the condition is the relaxing or sagging of the throat muscles. As a result the airway shrinks. Because the upper airway is obstructed, breathing becomes labored and loud. Collapse of the airway walls blocks breathing and, when breathing stops, snoring, broken by pauses, results. The sleeper is trying hard to breathe. There are gasps when breathing resumes.

Central apnea is characterized by an open airway, but the diaphragm and chest muscles do not work. This type of apnea is more common as people age. A third type is called "mixed," when a brief period of central apnea precedes a longer period of obstructive apnea. People with mixed apnea are usually snorers.

Apnea sufferers hardly ever get a good night's sleep. When breathing stops, they wake up. Sometimes they snort (and snore) and then begin breathing again. They are restless while sleeping and do not reach deep sleep, when the body gets the most rest. When breathing stops, oxygen in the blood falls and the heart has to work harder circulating blood. Other common symptoms of the problem are falling asleep at inappropriate times, such as driving a car, and excessive daytime tiredness.

In recent years, a standard treatment for apnea has been continuous positive airway pressure, or CPAP. With this therapy a mask is worn over the nose during sleep. An air compressor forces air through nasal passages into the airway, keeping it open for normal breathing. CPAP is used for obstructive apnea with good effect, but for some patients, it is cumbersome.

Surgery is sometimes an option to correct physical abnormalities, such as enlarged tonsils or adenoids, nasal polyps, deviated septum and malformations of the jaw and upper palate. The technique known as uvulo-palato-pharyngoplasty (UPP) removes excess tissue at the back of the throat which could be blocking the airway during sleep. For some people with severe obstructive apnea and some other medical problem such as heart failure or very high blood pressure, a tracheotomy may be an option. Tracheotomy, in fact, was the standard treatment for years.

For several years, Dr. Cartwright has been studying "positional sleep apnea," which occurs when the individual apneic, sleeping on his back, experiences breathing stoppages at least twice as often as when sleeping on his side. Approximately 60 percent of apnea patients are "positional." Dr. Cartwright and her fellow researchers theorized that these patients could be trained, while asleep, to stay on their side and therefore reduce their sleep apneic events.

Two relatively simple treatments, the Tongue Retaining Device (TRD) and a Posture Monitor Alarm (PA), both non-invasive, were found to be successful in a significant number of patients.

The TRD is similar to the mouthpiece worn by football players and prize fighters. It holds the tongue forward so that the breathing passage remains clear.

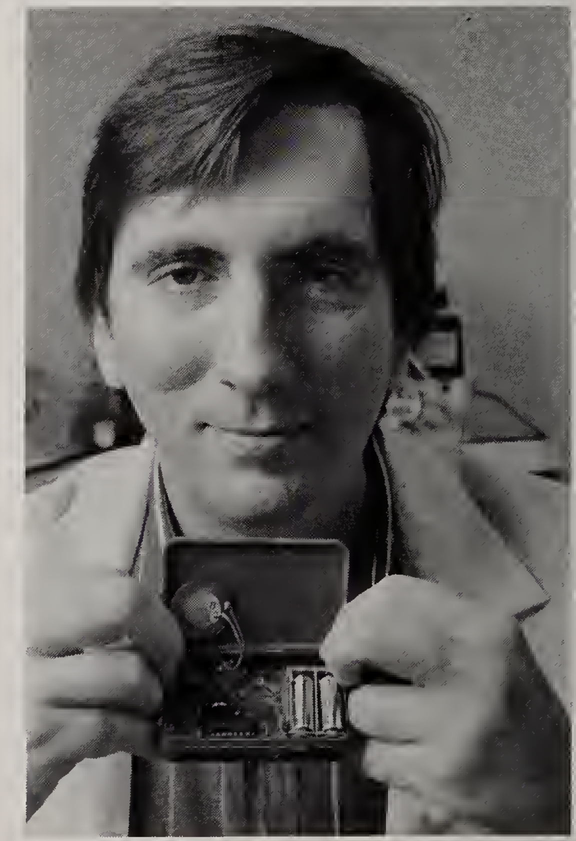
The PA, a small box about one-half inch thick, can be affixed to the sleeper's chest below the chest bone by means of a Velcro strap. Mercury switches activate a loud buzzer-type alarm which signals the sleeper to get off his back and turn on his side. The alarm does not necessarily awaken the sleeper.

In one study, funded by the National Heart, Lung, and Blood Institute, 60 patients—all men, ages 25-55—were divided into four groups: one group was tested with TRD, another with PA, a third with both TRD and PA, and the fourth group used no devices but concentrated on changing health habits that can affect sleep.

The results of this study demonstrated the effectiveness of simple treatment for this sometimes severe disorder. Dr. Cartwright and Dr. Charles F. Samelson (who invented the TRD) began experimental studies of this device in the mid-1980s. In fact, the first model was used in the Rush Sleep Lab in 1981. Since that time, in subsequent studies like the one described above, the TRD has been proven to be an important, simple and cost effective treatment for apneics. Dr. Stephen Lloyd, instructor and adjunct scientist, psychology and social sciences, is currently perfecting an improved model of the PA. The newest model also measures the time a patient sleeps on his back.

"The sleep posture monitor alarm is very effective and can be used at home, too," says Dr. Lloyd.

In a recently funded research effort, Dr. Lloyd will study 30



Stephen Lloyd, Ph.D., holds improved model of posture monitor alarm.

> *"For years, people thought that when we slept, our brain was turned off.... Not so. The mind is never off; we just change channels."*
>
> **Rosalind Cartwright, Ph.D.**

Ruzica Ristanovic, M.D., tests electric device to ease sleepers' periodic leg movements.

patients to further demonstrate that sleep posture training is a viable technique for certain selected apnea sufferers.

Another recently developed aid for positional sleep apnea patients is a specially designed t-shirt which has a pocket in the back for four tennis balls. If the sleeper attempts to lie on his back, he will be immediately reminded to turn over. Dr. Cartwright and Dr. Lloyd are convinced that such simple solutions to positional sleep apnea are possible, and that patients do learn to avoid the back position while they sleep.

Apneics are also helping themselves and one another through the Sleep Apnea Support Society (SASS). The society was founded in 1988 by a group of patients from the Rush Sleep Center. A self-help group, SASS educates the public and medical providers about sleep apnea and provides support for patients and their families. Members work with medical providers and are keenly interested in finding a cure for apnea. Their information hotline is 312-262-6506.

Periodic Leg Movements

For some people who complain of excessive daytime sleepiness, the problem could be a disorder known as periodic leg movements of sleep, or PMS. It is characterized by recurrent leg movements—extension of the big toes, movement of the foot back towards the ankle and sometimes bending of the knee and hip. Often bed partners are awakened; sometimes they are forced to sleep in a separate bed. These episodes can last from five-tenths of a second to five seconds and can recur every 20 to 40 seconds for periods ranging from several minutes to hours. PMS is most frequent in the first half of the sleep period, but can recur throughout the night.

Since PMS does not awaken sleepers, they are unaware of it and, as a result, the disorder can go undiagnosed and untreated for years. It is most common in those 65 or older. The best tool for learning about the severity of the disorder is a polysomnograph, or sleep recording, done in the Sleep Center at least one night.

Dr. Ruzica Ristanovic, assistant professor of neurology and psychology and social sciences, is testing an electrical device which may prove very helpful to insomniacs, who also experience PMS.

While at a professional meeting of neurologists in New York two years ago, Dr. Ristanovic noticed a neuro-muscular stimulator (the EMS-250) which had been approved by the FDA for treatment of atrophied muscles. And, according to the manufacturer, people in pain who used the stimulator were able to fall asleep.

"I found this very intriguing," says Dr. Ristanovic, "since it's very, very difficult for people in pain to sleep at all. I thought we might try the stimulator on a small group of PMS patients to see what effect pre-sleep muscle stimulation of the feet and ankles would have."

Eight patients were in the preliminary study. All were selected because of their inability or refusal to take certain drugs usually prescribed for the disorder. At the Sleep Lab they were fitted with pancake-like three-inch rubber electrodes below the knee and above the ankle. The electrodes were affixed with a Velcro strap to insure proper contact with the patient's skin. An ultra-low current of up to one milliamperes was applied for 30 minutes prior to sleep.

After the 30 minutes of muscle stimulation, the electrodes were removed. An all night polysomnogram monitored the patient as he/she slept. All the patients responded to the pre-sleep stimulation with reduced PMS, from pretreatment of 45 movements per hour to 14 per hour post-treatment. There were no adverse side effects. Dr. Ristanovic attributed the result mainly to the reduction of movements in non-REM sleep.

"The stimulator looks promising," she says. "What we have had to offer these patients in the past was mainly pharmacological. Drugs such as clonazepam and temazepam and various opioids as well as l-dopa can have undesirable and serious side effects." Furthermore, most are addictive and a common problem is the development of tolerance to them.

Dr. Ristanovic plans more extensive study of the stimulator with a larger patient group (20) and two types of control groups for comparison to further substantiate the stimulator's apparent beneficial effect. She will be seeking answers to such questions as: Is it due, for example, to an increased blood flow in particular muscles in the foot? This hypothesis suggests that more blood is flowing through the muscles, opening up capillaries, telegraphing to the sleeping brain and preventing PMS. "We don't know if 30 minutes of stimulation is optimal or not. Perhaps we should stimulate for one hour? More study is needed."

Stephen A. Burton, Ph.D., is developing a computerized system to score patient Sleep Lab data.

Help for 'Wet Noodles'

There are some people who go directly into REM sleep and dreaming as soon as they close their eyes. They are suffering from the disorder of narcolepsy. "For some unknown reason, people with narcolepsy seem to go right into REM sleep and dreaming as soon as they fall asleep, instead of the normal hour to two hours," says Dr. Stephen A. Burton, assistant professor, psychology and social sciences. Dr. Burton says there are between 4 and 12 narcoleptics in every 10,000 people in the general population and he estimates there are some 5,000 narcoleptics in the Chicago area.

Narcolepsy is a chronic condition characterized by recurrent spells, or attacks, of drowsiness and sleep. One of the prominent signs of narcolepsy is cataplexy. "These people lose complete muscle control when excited, say at a sports event, or if they get angry. They become sort of 'wet noodles.' They slump, or feel weak in the knees. Or they can collapse in a fall. If the event lasts longer than a minute, they go right into REM sleep," Dr. Burton explains.

Other symptoms include excessive daytime sleepiness, immediate REM sleep even when napping, vivid hallucination-like images while sleeping, and sleep paralysis (becoming frozen and unable to move). According to Dr. Burton, narcoleptics can go for years without ever getting treatment, since there is little public information about the disorder.

In both sexes, the ailment seems to have its onset at puberty and early adolescence. Since narcolepsy is a familial-related disorder, these people think that their sleepiness and drowsiness is normal since they saw a family member have the same experience. But the attacks can trigger emotional trauma, as the patient grows up fearing to get angry or excited lest he/she will have a narcoleptic attack.

At the present time, the main treatment for narcolepsy is a drug, either a stimulant or an antidepressant, depending on whether or not the patient has cataplexy. Dr. Burton is exploring other possible avenues of treatment. He is doing

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Innovative Dream Therapy Dissipates Depression

Rosalind D. Cartwright, Ph.D., director of the Rush Sleep Disorder Service and Research Center, believes that dreams mirror emotional problems, and that "bad" dreams can be turned around to a positive outcome. To substantiate her belief, Dr. Cartwright chose the stressful occurrence of divorce as a "laboratory" for study of this group's dreams.

In previous studies, Dr. Cartwright established that divorce can indeed be a precipitating factor in depression. She found that many divorced women were definitely depressed as a result. Their dreams reflected their low self-esteem, feelings of failure and fears of the future.

Dr. Cartwright's current research focuses on the dream cycles of 100 recently divorced men and 100 recently divorced women. The five-year study, begun in 1985 and funded by the National Institute of Mental Health, has been reported extensively in both the scientific and popular press. It is the first study to look at men and women experiencing the same stressful event, divorce, in an effort to learn who becomes depressed and who does not.

"We know that erratic REM (rapid eye movement) sleep is a biological marker of depression," says Dr. Cartwright. "We're finding that this group of people goes into REM sleep faster than is usual—40 minutes versus about 90 minutes for non-depressed people. Further, we've seen that subsequent REM sleep—three or four episodes per night—was as active as the first.

"Divorce procedures are taking longer and we are seeing that our patients' depression is lasting longer too. And, we've observed that many recently divorced people do not realize how deeply depressed they are," says Dr. Cartwright.

Once study subjects get to the Sleep Center they undergo a battery of psychological tests and interviews. Researchers look for genetic factors and a family history of depression, since people with this history tend to be depressed longer.

After interviews and psychological testing, selected men and women, both depressed and not depressed, spend three nights in the sleep lab. They are awakened each time there is a dream event (every 90 minutes or so) and asked to recount the dream. This dream data is analyzed and then certain individuals are chosen for dream therapy.

Dr. Cartwright meets with patients in eight hour-long weekly psychotherapy sessions. The dream setting and what happens in the dream are discussed. The patient is then asked to write a winning, or successful, dream ending.

Consider the dreams of Gerry*, one of the study's subjects.

An early dream: "I thought I was in some big city like New York. I was sleeping in some kind of a research place but someone there was very jealous of the work we were doing and was trying to destroy the results and kill me. It was a woman. She was trying to suffocate me. She put a pillow case over my head. I was just starting to fight back. It was dark and hard to see. I had to do it on my own. My throat was tight and my whole body was hot. I broke out in a sweat and was about to call my research associate to come back and help me when you woke me up."

A later dream, after undergoing dream therapy: "I was driving my car. I had just dropped off some money, a child support check for Lois (the former wife). She asked me to take her shopping at a big clothing store. Before we got started, she swung her legs across my lap. I had to put her legs back on the floor before I could put the ignition key in the lock and start the car. I was angry that she always takes advantage of every opportunity."

Gerry's dreams after therapy show he has become stronger and more assertive towards his former wife whom he continues to have contact with because of their son.

"Gerry's later dream shows he has defined a role now. He is willing to help his former wife, but he will not put up with her seductive behavior. Gerry is over his depression," says Dr. Cartwright.

To date, with almost 200 people studied, Dr. Cartwright has established that depressed patients have a fast, erratic, and in many cases, longer, REM sleep cycle. Work is currently underway to develop techniques to repair this disturbed sleep cycle.

She has also discovered that eye movement density also disrupts dreaming. According to Dr. Cartwright, the patients with this difficulty have the hardest time getting over their depression.

Some interesting findings have emerged from the research thus far: the incidence of depression is about equal—47 percent of the men and 51 percent of the women. If the woman left the marriage first, she tends to be more depressed. If a "non-traditional" male partner has left first, he is more likely to be depressed since he has a more equal share invested in the marriage and has more to lose.

"But, overall, we've found that helping patients to face up to troublesome dreams and turn them in a more positive direction appears to help," says Dr. Cartwright. "By re-directing their dreams, they effectively change their lives for the better. They recover."

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*composite patient

> *"There is no doubt that we would have very deprived lives without the benefit of sleep."*
>
> **Rosalind Cartwright, Ph.D.**

Continued from page 28

research on the illness using a basis of about 200 patients who have come to the Sleep Center for diagnosis and treatment in the last eight years. The first phase of his research, begun about a year ago, involves the dreams of narcoleptics. Often, many narcoleptics complain of nightmares.

In the second part of the research, Dr. Burton will evaluate systematically all the data collected on these patients, including information from additional nighttime observation in the Sleep Lab, to gain insight into who has nightmares and who doesn't and why.

"We know that narcoleptics' REM sleep overwhelms them. We want to determine what occurs if we disrupt their REM sleep. Will their dreams worsen? And, if we can improve their REM sleep, we may be able to find a way to lessen the incidence of nightmares," he says.

Probing Insomnia

Insomnia is another sleep problem being studied by Dr. Burton. He believes it may be a symptom of some underlying medical, psychological or physical condition.

In a preliminary pilot study begun about a year ago with seven patients, Dr. Burton is examining the mental process insomniacs experience prior to sleep, during the transition to sleep and just after sleep. "Although it's too early in the study to make any definitive statements, there are clearly differences. People with insomnia seem to have much more content related to their daily living in their sleep-onset thoughts than other people. They are more aroused, therefore, in their early sleep," he notes.

According to Dr. Burton, most people, unlike insomniacs, are able to shift mental gears (change channels from consciousness to sleep and dreaming) more successfully. With more extensive research, Dr. Burton hopes to gain a better understanding of the condition and develop ways to help insomniacs.

Meanwhile, Dr. Burton advises insomnia sufferers to follow certain simple guidelines:

- Use your bed primarily for sleeping, not for working or reading.
- Take a very hot 20-minute bath with bath oil (which holds in the heat) before bedtime.
- Set the clock for the same wake-up time every day.
- Avoid all sources of caffeine, including coffee, tea, colas, aspirin and chocolate, especially in the afternoon and evening hours.
- Do not nap during the day. If you do, shorten your sleep hours. The elderly can get along with two sleep times—a three-hour nap at mid-day, and four to five hours of sleep at night.
- Exercise at least 15 minutes after work hours to aid the transition from a working mind-set. If you have a relaxed attitude going to sleep, you will most likely sleep well.
- Check your diet. Eliminating some types of food, or drinking warm milk before bedtime can help, but there is little scientific evidence of the value of such steps.
- Don't do anything upsetting before bed, such as paying bills.
- If your biological clock is awry, change your sleeping and rising times.
- Dr. Burton advises that if these steps don't help, insomniacs should consult the local accredited sleep disorder center.

Easy Scoring of Sleep Data

Since 1985, Dr. Burton has been developing a computerized system to score patient data taken in the Sleep Lab that will speed up data collecting significantly. Over 95 percent of the sleep centers in the country are still scoring these all-night recordings by hand.

Prior to the development of this system it would take a staff member, working by hand, from six to eight hours to score data from one patient collected over only one night. With the newly developed system, it is possible to score 4-5 patients' data in only 30 minutes.

Scoring involves counting various sleep disrupters such as the number of periodic leg movements, blood/oxygen saturation, apnea episodes, grinding of teeth. The computer runs at night while the patient is sleeping, collects the patient's various events, analyzes the information, and records all the data. In the morning, in less than five minutes, it prints out all the results. If necessary, users can review and edit all the data by using an in-house word processor. In the last year and a half, the computer has comprehensively scored about 55 Rush patients.

Cost of the system is moderate compared to the cost of "routine" sleep center equipment. Currently, the SCOR-EZ™ system is operating a two-bed system in the Rush Sleep Center.

"We gain a lot of insight very quickly after a patient spends just one night in the Sleep Lab. It is marvelous to observe and record the mind doing so many things at the same time," says Dr. Cartwright. "There's no doubt that we would have very deprived lives without the benefit of sleep. It regenerates body cells and provides a coping mechanism for solving emotional problems affecting us in our waking lives."

Why Do They Die?

Probing the Causes of Suicide

By Krys Kazieczko-Kuszak

One busy summer day—in the midst of running errands and doing chores around the house—16-year-old Robby* took the gun that his family kept for protection in their suburban home, put it to his head and pulled the trigger.

Why?

Family and friends knew he was upset about breaking up with his girlfriend. But was it stress over the failing relationship that led to the tragedy?

"The average person and even many professionals make the assumption that suicide is caused by stress," says Psychologist David C. Clark, Ph.D., director of the Center for Suicide Research and Prevention at Rush-Presbyterian-St. Luke's.

"But what we're finding," Dr. Clark emphasizes, "is that stress has very little, if any, relationship to suicide."

For the past two years, Dr. Clark and his colleagues have been conducting "psychological autopsies" in a research effort aimed at determining and documenting the psychological and emotional factors leading to suicide. Two separate studies are under way—one focusing on teenagers and a recently begun pilot project on the elderly.

Both age groups are at especially high risk for suicide. Among 15 to 24-year olds, suicide is the third leading killer; the elderly, those 65 years and older, have the highest suicide rate of any age group in the country.

The psychological autopsy involves a series of systematic scientific interviews of family members, friends and/or others close to the victim. To date less than 10 such studies have been published, all of them focusing on the "average adult" population. The Rush studies are among the first to zero in on the high-risk teenage and elderly groups.

In conducting interviews and reviewing medical and school records, Rush researchers are concentrating on whether the victims showed any signs of psychiatric illness and whether there was a family history of psychiatric illness. They are also reviewing health care use patterns—how often they were seen by pediatricians or family physicians—and what these doctors knew about their patients.

The Teen Study

The teen study is an extensive one, covering all of Chicago and suburbs in Cook, DuPage and Lake counties. After a teen death is ruled a suicide by the coroner, the family is contacted about participating in the study. Thus far, more than 80 percent have agreed to participate.

"Many tell us afterwards that the interviews have been helpful to them." Dr. Clark says "They want to talk about the youngster who died and appreciate that we are willing and able to listen and offer some comfort when they're so upset." (The Rush interviewers do not counsel families, but they do refer them to support groups such as LOSS—Loving Outreach to Survivors of Suicide.)

"Ultimately," Dr. Clark adds, "our hope is that what we learn will help to spare other families."

Psychological autopsies are time consuming and, therefore, expensive. Researchers make a series of "house calls," spending anywhere from 8 to 15 hours with each person interviewed. "There were times when I drove one and a half hours

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**The story about Robby is based on a true case, but the teen's name and identifying details have been changed to assure confidentiality.*

Most people under stress don't become suicidal, says David C. Clark, Ph.D., who compares teens who have taken their lives with a control group of youths in the same community.

in rush hour traffic to get to an interview and found that the person just couldn't talk about things that day," Dr. Clark notes. "We always finish the interview series, but there are many, many broken appointments."

Individual interviews are done with the mother, father and each sister and brother as well as a male and female best friend.

"We spend so much time interviewing because no one person has all the pieces," Dr. Clark says. "Friends, especially, tell us a lot about dating, drug use and sexual activity that the parents don't know. We would have just half of the picture if we only talked with families."

Gathering all the information and analyzing the data is so tedious a process that it takes months to complete each case; the final report usually numbers about 100 pages. With the information culled, researchers are able to piece together and get an understanding of just what exactly did happen.

In many ways Robby's story is typical of the more than 40 teen cases completed thus far.

The youngest of four children, Robby enjoyed a stable family life; his parents were never separated or divorced. He had no personal history of psychotherapy or counseling but there was one incident two years earlier that had brought him to the attention of school counselors. Following a break-up with a girlfriend he cut himself, just enough to draw a little blood, and showed his friends what he had done. His friends told a teacher; his counselor and parents talked to Robby about it that day but nothing further happened.

At school Robby was well liked and had several close friends. He

"Once people become depressed, many things go wrong."

David C. Clark, Ph.D.

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was a strong B student, with As in a number of classes. He had won violin competitions and was respected by his classmates as a skilled musician—in fact that was what everyone thought of first when describing him. He had a part-time job and had just bought his first car.

Friends described the relationship between Robby and his girlfriend as "rocky" and said there were days when he was "jumpy."

The day before he died, he gave his music collection to his older brother, saying that where he was going he would no longer need it. That night he was up quite late, talking with his mother about how upset he was.

He had told his girlfriend that if she would not see him anymore, he would be watching her from above. At the time she didn't understand what he meant, but looking back, it's clear that suicide was on his mind.

More than half of the teens who commit suicide shoot themselves with a home-kept gun. "Sometimes the gun is left out. Sometimes it's locked up. Sometimes it's unloaded. It doesn't make a difference," Dr. Clark says. Like many of these youths—one out of three—Robby left a suicide note.

It never dawned on anyone that Robby was ill, but the psychological autopsy pinpointed serious signs that had gone unnoticed.

The last two months before he died, he had seemed to lose interest in fun things he had previously enjoyed. Although he was often praised as a "big" music talent, he was never quite happy with his performances and often destroyed the tapes he had made.

He was "mopey" at home and for at least a couple of weeks had reported trouble going to sleep. In thinking back about it, his brother noticed that Robby had been dropping weight and had complained about feeling tired and achy; probably due to summer football practice, was what the brother had thought.

Robby had also started to have trouble at work; he had wanted to rearrange his hours so that his time off would coincide with his girlfriend's schedule. He believed that his boss was purposely putting obstacles in his way when that was not what was really happening.

"In retrospect," notes Dr. Clark, "we know that these are symptoms of depressive illness—not just unhappiness or stress—and that Robby had been suffering from a major depressive illness in the few weeks before the suicide and maybe for as long as two or three months."

Researchers also discovered that Robby had had episodes of depression in the past when he again displayed the behavioral criteria for defining depression: periods of several weeks or more when he was "down" or sad, trouble sleeping, lost weight, guilt feelings and a loss of interest in things that were fun for him.

"Once people become depressed," Dr. Clark adds, "many things go wrong. Jobs are lost, marriages break up, people don't get along with other people. In those situations it's often thought that the stress of losing a job, girlfriend or marriage causes depression, but just as often, and sometimes more often, it's really that the person got depressed, changed and then things began to fall apart. In Robby's case, that appears to be what happened."

As part of the study, the teens who commit suicide are compared to a "control group" of youths in the same community who are undergoing the same stresses.

"For every teenage suicide occurring after breaking up with a girlfriend or getting bad grades, we can find a couple of kids in the same community who've just gone through the same experiences and don't become suicidal," Dr. Clark says.

"It's not that most people under a lot of stress become suicidal," Dr. Clark emphasizes. "You have only to visit an AIDS or a cancer unit in a hospital to know that most people cling vigorously to life. It's the exceptions who want to resign."

Rather than stress, mood disorders seem to be a necessary precondition. The three most common are clinical depression, alcohol and/or drug abuse, and schizophrenia.

It's rare to find a teenage suicide where one of these illnesses is not part of the picture, according to Dr. Clark. These specific psychiatric problems increase the teen's despair to such a degree that suicide becomes a viable option.

Statistics show reason for concern. Fifteen percent of all people with clinical depression commit suicide. Fifteen percent of those with alcohol problems take their own lives.

"People need to understand that they should be just as afraid of a teen developing depression or alcohol abuse as they are afraid that their teenager can get AIDS, because they can die from all three," Dr. Clark emphasizes.

In most cases these mood disorders are treatable with therapy, medication or a combination of both. More often than not, however, especially with depression, the illness remains unrecognized.

"The stereotype of an elderly person who commits suicide is someone who lives alone in a motel room, is alcoholic, doesn't see anyone and is totally cut off from former ties."

Susan Younger, M.D.

Rush researchers have found that teens who committed suicide visited their primary care physicians, complaining of physical illness, more often than those in the control groups. A minority were in treatment for mood disorders at the time they died, but often too little was done too late.

Also common are multiple diagnoses. Many of these teens are both depressed and abusing alcohol/drugs. The problem often is that the substance abuse is treated, but the depression is unnoticed. There are two fires but only one is put out.

"That's where the mental health professional comes in," Dr. Clark says.

"Our data buttresses the opinion that mental health professionals have not yet done a terrific job of educating the public about depression. Many people just don't believe it's real; they think a depressed person is just feeling sorry for himself. But we must teach the public how to recognize it, because by treating the illness we can markedly reduce the suicide risk."

Focusing on the elderly

While the suicide rate for adolescents has continued to climb, the elderly rate is still higher—about 150 per year in Cook County alone. Rush researchers are using the psychological autopsy to determine what factors contribute to such a high rate. First, however, they had to determine the feasibility of the project, explains Susan Younger, M.D., who spearheaded this research in close collaboration with Dr. Clark.

"The stereotype of an elderly person who commits suicide is someone who lives alone in a motel room, is alcoholic, doesn't see anyone and is totally cut off from former ties," notes Dr. Younger. "If that's true, then we would not have the informants we need for our psychological autopsy interviews."

However, researchers discovered quite the opposite.

Reviewing all of the 145 elderly suicides reported in Cook County in 1986, they discovered that about 80 percent lived with other people. Almost 70 percent were in a family setting.

As a pilot project, the psychological autopsy study of the elderly is purposely limited in scope, the results to determine whether further research is warranted.

Researchers began the autopsies last fall, conducting a two-hour interview with two informants for each case—most frequently spouses, adult children or siblings.

Cases thus far vary widely. One man, for example, was treated and even hospitalized for depression. He told his family he couldn't take it any more but they insisted it was "all in his head" and he had "nothing to be depressed about." Even his family physician said he didn't belong in treatment. They were all shocked and surprised when he took his life.

Researchers are now looking to see if the elderly suicides fall into any groups. What they have already been able to document is that almost 80 percent of these victims see a medical professional a couple of weeks before they die.

"They talk about or allude to enough problems that the physician often prescribes some sort of medication—Valium or sleeping pills," Dr. Younger says.

As with the teenage population, "warning" signs are often ignored.

"What we hope to do is establish a 'high-risk' profile," Dr. Younger says. "We want to be able to tell physicians: If you see this and this or a patient says this or this, it's time to do something—to make a referral to a mental health professional, to get the family involved or whatever turns out to be the right intervention." ◆

(Editor's note: Since this article was written, the Center for Suicide Research and Prevention has received a $1.7 million grant from the National Institute for Mental Health to further research on teen suicides. Dr. Clark and his colleagues will be looking at the prevalence of depressive illness and/or substance abuse in teen suicide cases. Knowing that these youngsters visit their family physicians more often than other teens, Rush researchers will also focus on what kinds of physical illnesses and complaints they give to their doctors.)

Scenes From a Volunteer Vacation

How a group of Chicago surgeons found happiness halfway 'round the world

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By Ryan Ver Berkmoes
AMN STAFF

Craig Bradley, M.D., decided to go to Thailand this year on vacation. But rather than go for the shopping and smells of Bangkok or the tropical beaches to the south, he and some friends went to Chaiyaphum, a town of about 40,000 in Thailand's central plains.

An agricultural center in a region of rural farms, Chaiyaphum is sort of the Topeka of Thailand. But Dr. Bradley's group wasn't there as tourists.

For their vacation they traveled to this poor area in Southeast Asia to do what they do at home: perform plastic surgery. However, instead of being paid by others for their work, they paid for this privilege themselves. What they got for their money was the chance to surgically repair the cleft lips and palates of 178 Thais.

For 16 hours a day during six days, the team of Americans, which included nine physicians, worked with the Thai staff at the Provincial Hospital in Chaiyaphum on patients ranging in age from a few months to 33 years.

The patients were from poor farming families. In the undeveloped parts of Thailand basic medical care is still a recent innovation, and complex procedures like plastic surgery are all but unknown. These patients and their families had resigned themselves to the

Craig Bradley, M.D.

Kim Litwack, Ph.D., R.N.

debilitating physical and psychological effects of their conditions.

The Americans helped to profoundly change the lives of those they operated on. But they changed themselves, too. The quiet dignity and thankfulness of the patients and families, the unstinting support of the hospital staff, and the deep emotions stirred by their sense of giving made this visit to Thailand a moving experience for everyone on the trip. As the week wore on, tears were shed far more often than blood.

The trip itself resulted from a conversation last year in the surgeon's lounge at Rush-Presbyterian-St. Luke's Medical Center in Chicago. Dr. Bradley; Robert Swartz, MD; and Michael Schafer, MD, who practice and teach at Rush, were discussing previous volunteer trips they had made abroad.

Each of those trips had been made through some sponsor agency. But the three friends had started the Foundation for Children's Reconstructive Surgery. Why not organize their own trip? The next step was to find a destination.

Another plastic surgeon at Rush, Anun Seetapun, MD, suggested they go to a rural area of his native Thailand. Dr. Seetapun contacted an acquaintance in Bangkok who is director of the Princess Mother's Medical Volunteer Foundation, a Thai royal family organization dedicated to bringing health care to rural areas.

An invitation to the Americans was soon issued. They spent the fall rounding up donated supplies from medical supply companies, securing the support of their hospital, and recruiting a team that eventually included six plastic surgeons, three anesthesiologists, two medical students, five nurses, and a couple of spouses and friends.

Dr. Bradley, the spiritual leader of the group, told people to expect a vacation where they would experience a new culture up close while doing something worthwhile. He didn't promise a lot of free time for sightseeing.

The group arrived in Bangkok in early February after a mind-numbing 19-hour flight from the United States. Having taken a couple of days to adjust to the 11 hour time difference, they boarded a bus to Chaiyaphum, which is 150 miles north of Bangkok.

Because it was the dry and "cool" season in Thailand, the usually verdant green rice paddies along the way were a brown patchwork, and the temperature hovered in the low 90s instead of triple digits.

Once at the hospital in Chaiyaphum, the team discovered the advantages of having had their wheels greased by representatives of the Thai royal family. Word had been sent to the health officers in villages for 100 miles in all directions to send the people most in need of cleft repair.

Several wards of the 350 bed hospital were filled, with almost 200 patients as well as family members patiently waiting for the Americans. The surgical facilities had been cleared for the week, and the

"The Thai medical staff saw that we weren't there to show them up, but rather... to work hard at helping them out."

Craig Bradley, M.D.

nurses told to expect to work long hours.

The following day, Monday, the Americans rose early. They soon discovered that, although all the logistical preparations had been made to near perfection, certain matters of politics and diplomacy could not have been settled in advance. The Thai staff remained rather standoffish.

Part of it was a natural shyness, but there was also suspicion of the Americans' motives, concern that the Americans were just there on a lark. Also, there was the matter of pride. Thai medicine as it is practiced in cosmopolitan Bangkok is as advanced as it is anywhere in the world, but such sophistication is not widely available in the rural areas. Was the American presence a slight?

The Americans were sensitive to these issues, and tried to address them the best way they knew how: They humbly donned their masks and went to work. That night some 13 hours and more than 30 patients later, the Thais and Americans reached some conclusions about each other. Said Dr. Bradley later, "The Thai medical staff saw that we weren't there to show them up, but rather that we were there to work hard at helping them out.

"On the other hand, we saw the professionalism of the Thais and gained complete confidence in them."

Beginning the next day, Tuesday, a rapport began to build between the Americans and the Thais that was to grow all week.

Besides the high level of skill of the Thai medical staff, the Americans were also impressed by the hospital facilities. The wards were spread out in several buildings with open sides screened to keep out the hordes of carnivorous insects. Since the patients were more than used to the local temperature, the only air-conditioned areas were the six operating rooms.

Medical supplies were plentiful, with the main difference from the United States being that almost everything was reusable, including the rubber gloves that were washed outside the surgical ward by a group of constantly laughing women. Shyamala Badrinath, MD, an anesthesiologist from Rush, said, "The equipment was fine; it was what I was used to using just a few years ago."

But what struck the Americans more than anything else was their patients. Mostly children, they were the product of a gentle culture, one where peace, happiness, and children are revered. Even during what had to be the most frightening experience of their lives, the children never cried.

Those waiting for surgery sat stoically in their beds, sometimes for days. Even when they were taken to the surgical ward, poked with needles, separated from their families, surrounded by strangely colored people dressed all in green, the stoicism remained.

Late one afternoon, nurse anesthetist Janice A. Migon looked at the lineup of children waiting on beds outside of the operating rooms, some of whom had been sitting quietly for hours while their IVs dripped on, and said, "In the United States, these kids would be crying, they'd be moving around, their parents would be complaining. But not here. I could take care of kids like this all the time."

One custom of the children that particularly impressed the Americans was the wai. A prayer-like raising of the hands, the wai shows both respect and gratitude from the heart. The children didn't just wai when they were greeted or given a gift like a balloon or a coloring book.

A surgeon on evening rounds would find little hands being brought up in front of a little freshly sewn-up face. Worse for the American's professional composure, a nurse would stick a child with a needle and get a wai.

One of the Thai translators explained that the children's attitudes didn't stem just from the culture but also arose from their understanding of what being in the hospital meant. In their villages, those with cleft lips were often shunned and teased by their peers. They knew that, whatever bad expe-

Anun Seetapun, M.D.

Shyamala Badrinath, M.D.

riences they might have here, being in the hospital also meant that they might look like the other children.

In a week filled with experiences both moving and humorous, some stand out:

Each night, the Americans would congregate about 10 p.m. outside their rooms at Chaiyaphum's only hotel. Although the hotel staff didn't know much English, they knew to send up plenty of the local beer. The group would discuss the day and unwind before going to bed. But after the first couple of nights, they also knew their sleep would be interrupted. A butcher shop behind the hotel slaughtered the coming day's supply of pork at about 3 a.m. The resulting last-ditch squeals were inescapable. The next day, morning coffee conversation would revolve around whether it had been a "big pig" or a "little pig."

John Kofler, a wealthy businessman, bon vivant, and friend of Dr. Bradley's from Chicago, went on the trip because he'd never done anything like it before. After a few days, he had become inseparable from the recovery room. As each anesthetized child was brought in from surgery, Kofler held the child's hand and talked gently until the child could return to the ward. When a girl had some bleeding that required the application of an ice pack, he remained at her side until a nurse finally forced him to sit down. He later said, "Sometimes you have to go half-way around the world to find something within yourself."

The evening nurses in the young men's ward ran the tightest ship in a hospital of tight ships. When they spotted the surgeons approaching on rounds, they would roust all of the next day's patients out of bed and line them up on chairs for inspection. This never failed to both amuse and move the surgeons who sympathized with the men sitting half paralyzed with fear of the surgery and half paralyzed with fear of the nurses.

The Thai staff planned to host a party for the Americans on Thursday night. But a string of bilateral cleft lips and complex palate reconstructions, coupled with some complications, meant that the Americans were very late for their own party. The Thais sat and waited patiently. Eventually the haggard Americans showed up. During the next few hours their plates and glasses were constantly replenished, they were treated to exhibitions of Thai dancing and sword fighting, and each and every Amer-

Robert Swartz, M.D.

ican was presented with a gift of appreciation. A much happier crowd left the party to go back to the hotel.

On Friday night before the last day of surgery, a group of the Americans made rounds to determine how many patients were left and which ones would get priority for the next day's surgery. Despite the assurance of the Princess Mother's representative that any patient the Americans were unable to treat would be taken to Bangkok for surgery, and despite the stated objective of the group to truly prioritize the remaining patients, all it took was the tears of one teen-age girl to dash their discipline. One of the first patients they saw, the girl had a cleft lip and had been told she would be going home because there wouldn't be time to operate on her. The Americans heard her soft sobs and told the interpreter to tell her that they would in fact operate on her. When she heard this, a look of sheer joy flooded into her eyes. That was all it took. All the patients were given the highest priority, and all were operated on the next day.

As the week drew to a close, the rapport between the Thais and the Americans had become friendship. The nurses, who had at first been reticent, were joking, teasing, and posing for pictures with the Americans. One would pose for another's camera only to be joined by a few more, until there was a whole flock of laughing, screaming Thai nurses grabbing any American they could to be in the photo with them.

On Sunday morning, the Americans made one last tour of the hospital. They walked more quietly than usual, many lost in their own thoughts. Dr. Bradley said little except, "So many kids, so many kids."

At 7 a.m. they began boarding the bus that would take them back to Bangkok. Saying good-bye were many of the hospital staff who had gotten up early on their one day off to come to the hospital to do so. Eventually the last hug, address, and words had been exchanged, and the bus pulled away. Murmurs of deep appreciation could be heard, and a few plans were made for a return to Chaiyaphum for a similar vacation next year.

But the voices didn't last long. After just a few miles, almost everyone on the bus was asleep.

(Editor's note: Medical Center representatives on the Thailand journey included: Plastic surgeons Craig Bradley, M.D., Robert Swartz, M.D., and Anun Seeptapun, M.D.; anesthesiologists Shyamala K. Badrinath, M.D., and Donald Jones, D.O., a third-year resident; Shaw Chen and Clark Rosen, fourth-year medical students, and Kim Litwack, Ph.D., R.N. In addition, David Zehring, M.D., of Seattle, who completed surgery and plastic surgery residencies at Rush, was also part of the group. They were joined by colleagues from the University of Illinois at Chicago and Christ Hospital and Medical Center, Oak Lawn, Illinois.)

Nursing in the Third World

By Nancy Stetson

Many health professionals donate their time and expertise to helping people in third world countries. Here are the recent experiences of three Rush nurses.

Nepali Hospital

"I like roughing it, and I like adventure," says medical intensive care nurse Elizabeth Lang, R.N., when asked why she donated six months of her life to nursing in Nepal. "Of course," she adds, "I didn't know what I was getting into! But part of me liked that."

Lang had visited Nepal two years previously, but discovered that a three-week vacation is much different than staying and working there for half a year.

"I thought about nursing in a third world country," says Lang. "I was thinking about Asia, southeast Asia—not particularly Nepal. I contacted a lot of organizations, but most of them wanted a two-year commitment, or they wanted someone with a master's degree who could do a lot of education and teaching. I wasn't ready to give two years. A friend of mine had a cousin who is a physician in Nepal. I contacted him about a position in the hospital there; they said 'come on over.' They were glad to have my help."

Lang worked at Scheer Memorial Hospital in Banepa, 20 miles from Katmandu, the capital of Nepal. The hospital, which is run by Seventh Day Adventists, had 35 beds. (They have since expanded and remodeled, and now have approximately 70 beds.)

Lang worked in the wards with the Indian and Nepali nurses. She taught the other nurses and was also the acting head nurse for two months.

"One way that medicine is different in Nepal is that you're treating a lot of different diseases—mostly infectious diseases, problems that come from poor hygiene and poor sanitation. You generally don't see that as much in this country. I saw diseases and problems that I've always heard of, but never saw or took care of before. Everybody has worms, there was just rampant TB, a lot of gastrointestinal problems and typhoid fever.

"Another thing that was different was that we didn't have the facilities to care for people like we do in the U.S. The hospital was nowhere near American standards. The equipment we had was ancient and usually didn't work. The electricity wasn't always reliable. It would go down at any time, so we wouldn't be able to use the old equipment that we had anyway. We resterilized needles, syringes, and gloves and never threw anything away. Sooner or later we would find a use for it." There were also fewer drugs to choose from to prescribe.

Lang also discovered that much of the equipment and supplies bought by or donated to the hospital were often "the cheapest kind." For example, they had intravenous tubing that wouldn't drip properly; it either ran wide open or didn't run at all. Lang says that many supplies sent were also the wrong size, noting that the Nepali people are "usually pretty small." At birth their babies weigh no more than five pounds, and a Nepali man who is 5′7″ is considered tall.

About halfway through her stay, Lang began adjusting to her environment. "It was fun, learning a different culture," she says. She had to get used to the unexpected, whether it was the electricity going out at odd times, or coming upon a

"We resterilized needles, syringes, and gloves and never threw anything away. Sooner or later we would find a use for it."

Elizabeth Lang, R.N.

Friends and families often stay with patients in Nepali hospital.

group that would be sacrificing a water buffalo to the Hindu gods. "I went on a Nepali picnic," she recalls. "They brought chickens. We not only cut off their heads, but we defeathered them and everything—we cooked and ate them at the picnic. That's how you go on a picnic there."

For Lang, the most difficult part of being overseas was leaving friends and family. She found herself in a new environment with a different language and culture, with no familiar faces and no support system. But by the end of her six months, she didn't want to leave. Returning to the States required yet more adjustments.

"I've had some culture shock coming back," says Lang. "Not only do I miss the Nepalis—some friends that I made there—but coming back to Chicago was overwhelming. Life was so slow paced in Nepal.

"Would I go back to Nepal? Yeah. It's in the back of my mind. If I didn't have certain ties—my relationship with my boyfriend, and my family—I'm not sure I would stay here. I could see living the rest of my life in Nepal. It's so exciting there! I'd write ten-page letters to one person and not even finish all I'd want to say. So much happens in your life in one day there, so many things. Part of me was still on a high from the excitement after six months."

Sudanese Refugee Camp

Sandy Frank, R.N., who has worked at Rush for seven years, spent ten months in a refugee camp in the Sudan and is now on a one-year leave of absence to work in Thailand. "I've always wanted to do medical work overseas," says Frank. She wanted to go to Thailand origi-

View of Banepa, Nepal, where Seventh Day Adventist Hospital is located.

nally, but took the position in the Sudan because it was offered to her. "I didn't know anything about the area at all," she admits, "but I thought I may as well go ahead and take the experience while I had the opportunity."

Frank lived in a simple hut in a town 30 miles away from the Ethiopian border and worked in a refugee camp that held 20,000 people. "Basically, all these people came from the drought back in '84," she explains. "Many Ethiopians are also trying to leave their country and enter the Sudan because Ethiopia is also a war-torn country." Although there is a civil war going on in the Sudan, Frank was not living in a war zone.

Her initial responsibility at the camp was as a TB program coordinator. "We didn't have electricity, so I wasn't able to use x-rays," she says. Frank also ran a nutrition program for malnourished adults and children as well as the public health program, which supplied immunizations for all children under five years of age.

"Our main pathology was 80 percent attributed to poor hygiene, poor sanitation, and poor nutrition," explains Frank. "The rate of malnutrition was 7 percent, but when I left, it was 22 percent. This was due to the fact that it was the rainy season. Our water supply came from the river. It was pumped up and sat in a storage tank that was supposed to be chlorinated and salted, but those things ended up on the black market rather than in our water supply, so we ended up with contaminated water."

Frank found the medical conditions at the camp very basic. "I thought, how can I ever work without my EKG, or my lab, or my diagnostic tests that I rely on to monitor our patients all day long."

One day when Frank was out in the village with home visitors, she came upon a little girl who had fallen off a donkey two days earlier. "It was obvious she had a broken femur, and the family wasn't doing anything about it," she says. "So I said to the family, 'Why don't you let us bring her into the hospital and have a look at her?' At that time there was a lot of political unease going on between the refugees and the Sudanese government. They weren't allowing any of the refugees to go in and use their hospitals, so we didn't have the option of sending her off to a 'real' hospital where they could x-ray her and put her in traction. So what we did was create a kind of make-shift traction, tying both of her legs to the ceiling so that her body would give her traction. Eventually her femur was able to get in line."

According to Frank, "the philosophy of the group I went with—the American Refugee Committee—is that we're not there to do all the work but to help them be self-sufficient. We took the camp over from Save the Children, which is a British organization. They had tons of money poured in there from Live Aid, Band Aid—*millions* of dollars, and the refugees were getting blankets and food and medicine any time they wanted them. We were privately funded and didn't have the budget Save the Children had, so we really had to pare things down when we got there. We weren't very popular for a while."

Caryl Weinberg, R.N., (shown with local physician) tended patients in Malawi, Central Africa.

The Warm Heart of Africa

On the other hand, when Caryl Weinberg, R.N., went to Malawi in Central Africa, she received a very warm reception. "One of the nicknames for Malawi is 'the warm heart of Africa,'" she explains. "The country itself was very welcoming. It was funny, because I was accepted a lot more than I thought I would be. They were very appreciative of any little thing I could possibly do.

"There's also a very good feeling towards the United States; they just love the United States. And when you get out and see what we've done for them by sending rations over, you understand. A lot of their food and grain comes from the United States."

Weinberg went to Malawi through her church, the First Presbyterian

"There's almost no high blood pressure (in Malawi) and almost no heart disease... It just shows the importance of diet."

Caryl Weinberg, R.N.

Church of Evanston. Their high school youth program takes a mission trip every year; every three or four years, they go overseas. This past year they were approached by the Medical Benevolence Foundation and asked if they would be willing to go to their mission hospitals in Malawi and Zambia and repaint them. The church wound up sending out a team to each place. Weinberg went with the Malawi group, to provide medical assistance to the Malawians.

"I've always been interested in doing something like this," Weinberg says. "For one thing, I believe in the mission of the church. I also believed that if I could raise my own finances, that I have some kind of obligation to serve somewhere where people may not be able to get that kind of help. I don't feel that being there for three or four weeks made a huge difference, but it allowed me to go in and see what was going on. I've been able to recruit supplies and do things like that now, since I've been home."

The hospital treated a lot of respiratory diseases such as pneumonia. Anemia, TB, and malaria were also very common. AIDS is rampant over there; it is estimated that by the year 2000, half of the Malawi population will have AIDS.

"There were a lot of major burn cases," says Weinberg. "That surprised me. They occured because the people who had epilepsy would have a seizure and fall into the fire. But there's almost no high blood pressure in that country, and almost no heart disease. That's wild. It just shows the importance of diet."

Weinberg helped at the outpatient clinics, giving immunizations and medications. She also did prenatal screening at the maternity clinics. "Because they have so few supplies they're very limited in the technical procedures they can do," Weinberg says, "but the care they gave was just excellent; it was very patient-oriented. They had rounds on every patient every morning, and their cases were gone over very thoroughly. They had charting to a certain extent, but it wasn't as formalized as ours. Their medical care was a little crude, but because of the circumstances, it had to be. I was really impressed. I couldn't get over the quality of the medicine and care that was given."

As an example, Weinberg points out the rigorous training the Malawian midwives receive. "A registered nurse who's been there for five years runs all the teaching programs. She teaches the midwives, and she is *tough*. They have strict guidelines because they want them to be independent when they go out into the community."

The midwives use song to teach the village women how to care for their babies and children. This form of rote teaching is very effective and helps the women remember what to do in varying circumstances. Weinberg recalls visiting one of the villages: "They were singing a song, and I said, 'I've heard this song before. Where's it from?' And the women all knew it from the clinic. It was all about how to take care of your baby. It's very specific: if your baby cries, breastfeed him, or give him maize, or if your baby is sleeping too much, bring him to the clinic.

"The songs have a lot of rhythm and hand-clapping. All of them know how to sing it. It's incredible because you hear it everywhere. I must have heard this one song about a hundred times. I didn't know what all the words meant, but I kept hearing it over and over. The women love it. They're not literate, so this is a good way for them to keep the information as reference. And it's passed on, from children to children."

Because she wasn't gone long, Weinberg didn't feel she needed to make any major adjustments upon returning home. But she did discover that she's become more frugal and is aware of everything she throws out now. She's even hooked up with someone who sends her old hospital supplies; rather than see them get thrown out, Weinberg sends them overseas. "Not all of us can go overseas, but we can do something here," she says.

Permanent Changes

All three feel that their experiences were positive. In fact, they've been so strongly affected by their overseas adventures that they're eager to do it again. Frank is in Thailand now for a year, and Weinberg is now on the board of the Medical Benevolence Foundation and is hoping to go to Haiti with a Rush physician within the next few months. Lang is willing to move to Nepal permanently.

"I'd encourage anybody to go overseas," says Frank.

"Others were excited for me when I went overseas," adds Lang, "and they wanted to know all about it when I returned. Most of them would say to me, 'I wish I could do something like that.' It seems like most people have a little place in their heart where they want to, but they think they can't. They admire me for what I did; they kind of put me on a pedestal, but I don't see it that way. For example, I have some friends who work on a burn unit. I could never work on a burn unit. Or some people might say, 'I could never be a nurse.' It's the same with going overseas. It was easy for me; that's my personality. Sure, there were some difficult parts, but the positives outweigh the negatives."

"Everybody's been real interested in my experiences," says Weinberg. "I find that most people have that curiosity, but they always think that it's beyond them to do something similar. I don't think a lot of people realize that you can just go for a couple of weeks at a time. You don't have to make a three- or six-month investment." On the other hand, Lang observed it's hard to help people and make changes until you know who they are. She felt that after six months she was just getting used to their culture and customs.

A common feeling among these nurses is that even though they went to a third world country to help, they wound up receiving more than they gave.

"I think I experienced a lot of inner growth, not only in learning better who I am, but in learning to sit back and examine everything that I was accustomed to and what my thought processes were about other people," Lang said. "I found that I couldn't just walk into a culture or a situation and change everything to suit myself. I learned that change takes time. I was forced to become more accepting and more flexible.

"I wish everybody could do this, not just nurses. There's a big world out there; it doesn't look like America does." ⓤ

Mothers bring children for check-up to Malawi outpatient clinic.

Multidisciplinary Pediatric Pain Team in Action

"There are a lot of myths about pain in children," says Mary Ann Alexander, M.S., R.N., maternal/child nursing. "One is that children don't feel as much pain as adults. Another is that you shouldn't treat it too aggressively for fear of side effects, mainly addiction, respiratory depression and sedation."

Dispelling such myths among the nurses, physicians and pharmacists who care for children is an important role the Pediatric Pain Team plays as it presents periodic inservice programs for pediatric staff.

Its other, perhaps more crucial role, however, is as consultant to individual physicians and nurses whose patients are obviously suffering pain while hospitalized.

The Multidisciplinary Pediatric Pain Team includes Alexander, who is the assistant unit leader on the child/adolescent unit; Robert L. Barkin, M.B.A., Pharm.D., assistant professor of orthopedic surgery, family practice and anesthesiology and a faculty member of the Rush Pain Center; Anthony Richtsmeier, M.D., assistant professor of pediatrics and the team's medical consultant; Marian Broome, Ph.D., R.N., assistant chair, and Jeanne Slack, D.N.Sc., R.N., associate chair, both of maternal/child nursing.

All five have individual and research concerns about the undertreatment or nontreatment of pain in hospitalized children. The group began meeting for "Pain Rounds" weekly a year ago to do something about it. Recently it began meeting twice weekly.

"Children are reluctant to say they are in pain," notes Alexander, "so it's often the nurse who will be the one to notice the child is obviously uncomfortable."

And when a child does have pain, says Dr. Barkin, "the medications are often prescribed 'as needed' so that if the child doesn't or cannot speak up, the pain is not addressed."

What the team sees and treats most frequently is post-surgical pain related to major procedures like hip or knee surgery or plastic surgery, pain related to cancer treatment, pain as it occurs in sickle cell crisis and painful disease states like Crohn's (an inflammatory bowel disease).

The first thing the team does is review the patient's chart to determine what is causing the pain and what, if anything, is being done. Then, usually a new medication regimen is developed using Dr. Barkin's pharmacologic expertise. The regimen will often use a combination of medications, administered around the clock, with medication at selected interim times to maintain a high degree of subjective relief and reduce insomnia and anxiety.

As part of the treatment, the team may even recommend nonpharmacologic intervention like audio relaxation tapes, to help the patient better cope with pain-related tension.

"With all the current emphasis on 'Say no to drugs' many health professionals, family members and even the children themselves think they must avoid taking any pain medication. But with these patients the pain is severe and of relatively short duration," says Alexander.

"Our treatment won't make addicts of anyone. But it will help the healing and make their stay with us less traumatic." C.J.R.

The search for an ideal bone marrow donor for 23-year-old leukemia patient Yean Boon Tan (r) led Medical Center physicians to Australia, where Tan's younger brother, Yean Yeow, is a student at the University of Melbourne. Tan, a student at Northern Illinois University, was diagnosed with the illness about a year ago and treated with chemotherapy, but a relapse made a transplant imperative. Blood tests determined that Yean Yeow was a perfect match for the transplant so he was flown to Chicago to be at his brother's side. It was the first time the two had seen each other in five years. According to Herbert Kaizer, M.D., Ph.D., director of the Thomas Hazen Thorne Bone Marrow Transplant Center, the bone marrow transplant from a matching donor offers Tan the best hope for recovery.

Endowed Chairs Now Total 47

Seven new endowed professorships have been established, bringing the total to 47, and four new appointments to endowed chairs have been made by the Medical Center's Board of Trustees.

Generous bequests have provided for the establishment of the following chairs:

The John W. Curtin, M.D., Professorship in Plastic and Reconstructive Surgery;

The Joseph and Florence Manaster Professorship in Multiple Sclerosis;

The Dr. Glen G. and Blanche S. Ehrler Professorship in Obstetrics and Gynecology;

The Independence Foundation Professorship in Nursing Education;

The Cynthia Oudians Harris, M.D., Professorship in Psychiatry;

The Stanley G. Harris Family Professorship in Psychiatry; and

The Colonel Robert R. McCormick Research Professorship in Diagnostic Imaging.

The Medical Center's new named professors are:

Lourens J.D. Zaneveld, D.V.M., Ph.D., the Harry Boysen, M.D., Professor of Obstetrics and Gynecology. Dr. Zaneveld, who joined Rush in 1983, is director of the Section of Research, Department of Obstetrics and Gynecology, and director of the Endocrine/Radioimmunoassay Laboratory, Office of Consolidated Laboratory Services. He is internationally recognized for his expertise in male contraception and andrology, and is the principal investigator of two National Institutes of Health grants totalling $400,000.

John E. Trufant, Ed.D., the Catharine and R. Winfield Ellis-Philip N. Jones, M.D., Professor of University Affairs. Dr. Trufant is vice president for academic resources and dean of The Graduate College and of the College of Health Sciences. A member of the faculty since 1975, Dr. Trufant first came to Rush as director of the Center of Educational Resources. He has served as the principal investigator of studies relating to medical center administration and students' academic performance.

David A. Turner, M.D., the Colonel Robert R. McCormick Professor of Diagnostic Imaging. Dr. Turner has been the full-time director of the Colonel Robert R. McCormick Magnetic Resonance Facility since its inception, with responsibility for its technical operation as well as for the administration of the Section of Magnetic Resonance Imaging. Dr. Turner has authored numerous scientific publications on magnetic resonance imaging and is an acknowledged authority in the field.

Joseph E. Parillo, M.D., the James B. Herrick Professor of Heart Research. Dr. Parillo joined the Medical Center in July as director of both the Section of Cardiology and the newly created Section of Critical Care Medicine. He will also serve as co-director of the Rush Heart Institute. A renowned researcher in heart disease and critical care medicine, Dr. Parillo came to Rush from the National Institutes of Health.

Trustees Elect New Chairman

Edgar D. Jannotta

Edgar D. Jannotta, managing partner of William Blair and Company, is the new chairman of the Board of Trustees of Rush-Presbyterian-St. Luke's Medical Center.

A Trustee since 1965, Jannotta succeeds Harold Byron Smith, Jr., who had served as chairman for the past 10 years. Smith, who is chairman of the executive committee of Illinois Tool Works, Inc., continues to serve as a Medical Center Trustee.

Jannotta is a member of the Trustees' executive committee and has also served on almost every standing committee of the Board.

He first joined William Blair and Company in 1959 and in 1977 became managing partner at the firm, which is the third largest investment banker among such firms in Chicago.

A Navy veteran, Jannotta is also a director of AAR Corp., Bandag, Inc., Molex, Safety-Kleen and Sloan Valve Company. He holds an M.B.A. with distinction from the Harvard Graduate School of Business and is a 1953 Princeton University graduate.

Re-elected as vice chairmen of the Board were: Roger E. Anderson, former chairman of Continental Illinois Corporation and Continental Illinois National Bank and Trust Company of Chicago; Marshall Field, chairman of the board, The Field Corporation; and Richard M. Morrow, chairman and chief executive officer, Amoco Corporation. Leo M. Henikoff, M.D., was re-elected Medical Center president.

New Trustees Join Rush Board

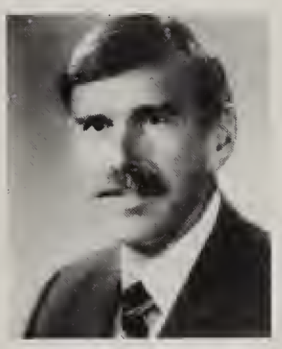
Five new Trustees were recently elected to the Medical Center's Board. They are:

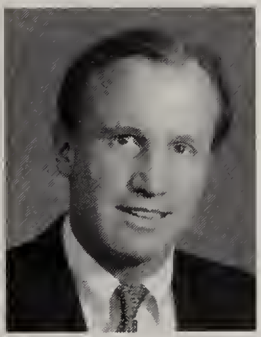
Robert J. Day, chairman and chief executive officer of USG Corporation, General Trustee. Day began his career with United States Gypsum Company in 1950. A native of Boston, he earned his bachelor's degree from Pennsylvania State University. He holds directorships on a number of business and civic boards, including the Federal Reserve Bank of Chicago, and Duff and Phelps Selected Utilities.

Robert J. Day

Robert A. Wislow

Walter W. Whisler


Stephen M. Wolf


John H. Dick

Frederick G. Jaicks

Robert A. Wislow, founder and chairman of U.S. Equities Realty, Inc., General Trustee. Wislow is also chairman and assistant secretary of the Michigan Chestnut Investment Corporation and a board member of the Economic Development Commission. He holds a degree in business from North Central College. A native Chicagoan, he is a member of the Chicago Architecture Foundation and the South Loop Planning Board.

Walter W. Whisler, Jr., M.D., Ph.D., president of the Medical Staff and chairman of the Department of Neurological Surgery at Rush, Annual Trustee. A diplomate of the American Board of Neurological Surgery, Dr. Whisler joined the Rush medical staff in 1965. He is director and vice-chairman of the Illinois State Medical Inter-Insurance Exchange. Dr. Whisler earned both his medical degree and a Ph.D. in biochemistry from the University of Illinois and served his intership and residency at the University of Ilinois Hospitals.

Stephen M. Wolf, chairman, president and chief executive officer of UAL Corporation and United Airlines, General Trustee. A graduate of San Francisco State University, Wolf began his career in 1966 with American Airlines, where he rose through the ranks to vice president-Western Division. He was president and chief executive officer of Republic Airlines from 1984 to 1986 and, before joining UAL and United, served as chairman and chief executive officer of Tiger International, Inc., Los Angeles.

John H. Dick, president and publisher of J. Dick Research Publishing, Annual Trustee. Dick, who is also founder of Dicksfield Properities, earned his M.S.M. degree from the Lake Forest Graduate School of Management and holds a bachelor's degree from Nasson College. A member of the Medical Center Associates for 13 years, he is now co-chairman of that group after service as vice-chairman and treasurer. He is also treasurer of the Dick Family Foundation and a member of the board of directors of Lake Forest Open Lands.

In addition, Frederick G. Jaicks, retired chairman of Inland Steel Company and a member of the Rush Board since 1970, was elected Life Trustee. Jaicks was vice chairman of the executive committee of the Medical Center's Board of Trustees from 1974 to 1980 and also served as chairman of the Anchor Cross Society. He has held directorships at Amoco Corporation, Inland Steel Company, R.R. Donnelley and Sons Company and Zenith Electronics Corporation. N.S.

Analyzing the Way We Walk

For 15 years biomechanical engineer Thomas Andriacchi, Ph.D., has been collecting data on the way we walk.

As director of orthopedic research and of the Medical Center's John L. and Helen Keeshin Human Motion Laboratory, Dr. Andriacchi has studied some 1,500 patients over the years, looking at normal gait and arthritic gait, comparing various implantable artificial joints to determine which most closely approximates the normal function of the joints, and documenting the performance of athletes following ligamentous injury to the knee as well as evaluating the influence of shoes on the forces exerted by basketball players when they run and jump.

Dr. Andriacchi, who also holds the Claude N. Lambert, M.D.-Helen S. Thomson Chair in Orthopedic Surgery, has perhaps the largest data base on human motion studies of anyone in the country. But in recent years, another question has nagged in the back of his mind: how best to make such data available to clinicians who see outpatient gait disorders. Those might include sports injuries, workers' compensation cases and the aches and pains in feet, knees and hips more common to the wear and tear of daily living than to any specific disease process.

Out of that question the Computerized Functional Testing Corporation or CFTC was born. During the past year the Medical Center has provided the start-up capital, and Dr. Andriacchi, with partners Jorge Galante, M.D., and Gunnar Andersson, M.D., has organized it.

So far, CFTC has set up three outpatient gait lab sites—two in Chicago and one in Salt Lake City—with plans for at least two more "alpha sites" within the next year.

A small office in the Chicago Technology Park is CTFC's headquarters where staff run the computer programs to analyze the data generated by the mini labs.

"Research remains my primary focus," says Dr. Andriacchi, "but with CFTC the main challenge has been to get it (the data collecting and analysis) down to a simple technology."

This he has accomplished by adapting modern computer and video technology to a gait lab setting.

The type of data Dr. Andriacchi and his research associates have been collecting and continue to collect in the Keeshin Laboratory—a gymnasium-sized room with a massive Digital computer and custom-designed opto-electronic research cameras—can now be collected in a modest-sized office setting, using a personal computer, floppy disks and ordinary video cameras.

The data collecting, much of it automated, is done by a technician. The data on the disk is then analyzed at the Chicago Technology Park office, but even this, to a large extent, is automated. Dr. Andriacchi uses his ever-expanding research data base to analyze the CFTC findings.

What the patient's physician receives from CFTC is a comprehensive computer-generated report, describing exactly what forces are being exerted on the patient's foot, ankle, knee and hip joints as he/she walks, jogs, sits and climbs stairs. The report describes what is normal or abnormal about the joint kinetics and where the weaknesses or abnormalities lie.

From such a report, the physician may recommend anything from physical therapy to a joint replacement operation to a change in the way the patient walks or the shoes he/she wears.

The CFTC gait labs in Chicago are located at Rush, in the Professional Building, and at Shriner's Children's Hospital. "At Shriner's the physicians test children with cerebral palsy," Dr. Andriacchi explains. "These children have a lot of spasticity and gait analysis can help the physician decide what surgical or other procedure might make walking easier for that child.

"Here at Rush we see all sorts of patients: athletic injuries on the mend, arthritic patients, and people with unexplained pain when they walk.“

The new Salt Lake City facility, at the Hospital of the Latter Day Saints, also expects to see a broad range of patients, though Dr. Andriacchi notes it has a large sports medicine program.

In addition to analyzing the data the labs generate, CFTC oversees the installation and start-up of each new lab. CFTC staff flew to Salt Lake City in August to train the staff for the facility there. When all the equipment was installed, CFTC ran ten normal patients through the various test regimens, to be sure everything was working properly.

The Rush lab is currently running between five and ten patients a week; the testing phase takes about an hour and costs about $600.

Data collected at the labs is shipped to CFTC for analysis, which takes about three days and costs about $400.

CFTC sees patients by referral only but plans are underway to increase Chicago area physician awareness of the service, with a newsletter this fall entitled *Walk-About*. C.J.R.

The "wonderful nursing care and relaxed atmosphere" of our Family Birth Center (FBC) brought Colleen and Kurt Lange, of Naperville, all the way to Rush for the birth of Michael Patrick, who arrived weighing nine pounds, seven ounces. The FBC has become quite a tradition with the Langes—all five of their children were born here. Pictured with the proud parents and their new little one are FBC nurses Julie Noel, R.N., coordinator (l), and Cindy Williams, R.N.

Nurses Receive Grant To Study AIDS

Rush University College of Nursing has received a five-year training grant to provide research fellowships for doctoral and postdoctoral nursing students interested in nursing care of persons with AIDS. The $514,986 grant was awarded by the National Center for Nursing Research of the National Institutes of Health. It is the first grant of its kind in the country.

"Although there is no cure for AIDS, drugs and treatments are prolonging the life of HIV-infected persons," notes program director Janice Zeller, Ph.D., R.N., professor, medical nursing and associate professor immunology/microbiology.

"The result will be a greater need for long-term care and support for those with AIDS. Because much of nursing involves caring for people with chronic illnesses, and assisting them in the management of their illnesses, the role for nurses in AIDS patient care is ever expanding. This grant addresses that need."

Zeller directs the grant along with Kathleen Gainor Andreoli, D.S.N., the John L. and Helen Kellogg Dean of the College of Nursing and vice president, nursing affairs, and Joyce Keithley, D.N.Sc., chairperson, surgical nursing.

The grant provides graduate nurses and nursing postdoctoral fellows an interdisciplinary approach to studying AIDS and the care of AIDS patients. Rush faculty members involved in the project include experts in immunology, virology, nutrition, stress management, caregiver support, coping, symptom management and health policy/economics.

There are currently four students in the program.

Barbara Swanson, M.S., R.N., is zeroing in on the relationship between neuropsychological functioning and serum levels of tumor necrosis factor Alpha in persons at different stages of HIV infection. People infected with HIV develop a progressive dementia or a motor dysfunction; Swanson's research is aimed at discovering and characterizing the mechanism underlying those changes.

Mary Ann Colletti, M.S., R.N., who is interested in psychoneuroimmunology, will begin research to examine whether stress levels and patient outlook serve as co-factors in the progression of HIV infection.

Kim Stieglitz, M.S., R.N., is focusing on pediatric AIDS and families.

And postdoctoral fellow Nuannoi Sithichoke Rattan, Ph.D., R.N., is investigating the influence of stress hormones on HIV infection of monocyte cell lines to see whether stress has any impact on the ability of HIV to infect immune cells.

Overall, the grant will enable the establishment of a program of study for doctoral nursing students that will cover:

- The role of nutrition in maintaining the integrity of the immune system.
- Strategies for optimal nutritional support for HIV-infected people.
- The role of stress in immune system decompensation in persons infected with HIV.
- Potential strategies for stress reduction in HIV-infected persons.
- Alterations in immune function in HIV-positive persons who are treated with antiviral chemotherapy.
- The financial impact of AIDS on people infected with HIV as well as on the healthcare industry in general.
- Identification of social support networks available to persons with AIDS, their families and significant others.

"An additional benefit to putting together this proposal," says Zeller, "was that it led us to identify numerous resources that will be helpful to students who want to do research in AIDS and AIDS nursing." One of these connections, she indicates, is the Howard Brown Memorial Clinic in Chicago, a health clinic being used as a training site for some of the doctoral students.

"We also decided that our curriculum could use a sociology course related to populations at high risk for HIV infection: gays, bisexual males, IV drug users and prostitutes—groups that students generally might not be very comfortable with. This course will provide them with a sensitivity to the needs of these populations, as well as the problems associated with their community settings," Dr. Zeller explains.

"Not only would this be useful to students who are interested in AIDS research per se, but to students in our community health program, and even those in maternal child health, because women and children are a rapidly growing HIV-infected group."

Predoctoral students who complete the program will earn a doctor of nursing science degree with a focus on AIDS nursing and will be able to function as nurse scientists in a variety of clinical, educational, management and research areas.

Postdoctoral fellows will be advanced research scientists, qualified to develop their own research programs in AIDS nursing.

Depending on research and coursework emphasis, graduates may be qualified for joint faculty appointments in biological, behavioral, or organizational sciences and have the educational background necessary to develop their own research programs.

"Many who train here may eventually join our nursing college," says Dr. Zeller. "This training program will not only help us build our own cadre of researchers, but will also be instrumental in preparing nurse leaders who can share their expertise nationwide."
N.S.

Hospice Program Helps Alzheimer's Patients

This past June marked the first anniversary of the Rush Alzheimer's Family Care Hospice (AFCH), which provides in-home services for terminally ill dementia patients and their families.

According to Brigid G. Brechling, A.C.S.W., executive director, "traditional hospices are more oriented to the care of cancer patients and are reluctant to accept terminal dementia patients. The growing number of dementia patients, however, indicates a need to extend hospice services to these patients and their families."

Co-sponsored by the Rush Alzheimer's Disease Center and the Chicago chapter of the Alzheimer's Association, the hospice has a dual mission: to accept the uniqueness of each family unit and to work with that unit during the last stages of the patient's life as well as to provide support during bereavement.

The program depends heavily on volunteers who are supported by an interdisciplinary staff of Rush physicians, nurses and social workers. Volunteers receive special training for their role in assisting family members in patient care and in providing respite for the patient's primary caregiver.

Patients admitted to the hospice program must be in the terminal stage of dementia and live in a defined geographic area.

To date, AFCH patients have been predominantly women, ranging in age from 64 to 90. The duration of the illness ranges from 5 to 20 years. All patients entering the hospice were essentially bedridden.

During the first year, the hospice served 11 patients. Nineteen volunteers have been trained and 15 still remain active. These volunteers have donated more than 1,000 hours of their time during the year, with many more hours given to telephone consultation.

Judith Heyworth, M.D., hospice

A birthday reunion in March marked the fifth anniversary of the Rush In Vitro Fertilization Program, directed by Ewa Radwanska, M.D., Ph.D. (center), who is surrounded by smiling faces of special children and their parents. Dr. Radwanska is holding Tiffany Autrey, our first IVF baby. The Rush program, which offers the latest in modern reproductive technology, is the most successful of its kind in the Chicago area with 49 babies born to date. In addition to the IVF procedure, GIFT (gamete intrafallopian transfer) and ZIFT (zygote intrafallopian transfer) are also offered.

medical director says in describing the care program, "We find out the family's hopes and needs in order to help them with those last months. We can't cure the disease and we can't take away the pain that the family is feeling, but we can help them solve problems and get the support and education they need."

Once a patient is accepted, the family has the benefit of consultation from members of the interdisciplinary team. They are guided in caring for the patient, in obtaining needed durable medical equipment and in monitoring medication.

Volunteers provide respite time, and assist with daily problems.

The family is also counseled in coping with the approaching death of their loved one and follow-up visits after bereavement are an important part of the program.

Plans are now underway to expand the hospice. Priorities include enlisting more volunteers, securing additional funding and reaching out to as many families as possible to inform them of the availability of the hospice services. S.D.

Returning the Nurse to the Bedside

When Alice Carpenter has a day off, the refrain on the 8 South unit at Presbyterian-St.-Luke's Hospital is "Boy, do we miss Alice!"

Alice Carpenter is one of 37 unit assistants currently helping Rush nurses to do what they want to do—be nurses.

The unit assistant program was developed two years ago to alleviate the work load of nurses who were often tied up with non-nursing duties. (Research has shown that up to 40 percent of a nurse's work is spent on non-patient care duties.)

"The unit assistant is the first step in alleviating some of the problems for our nurses; it's not a definitive answer to the nursing shortage," cautions Marilee Donovan, Ph.D., R.N., chairperson, medical nursing.

Dr. Donovan, with Jeanne Slack, D.N.Sc., R.N., associate chairperson, maternal-child nursing; Kathleen Gainor Andreoli, D.S.N., vice president, nursing affairs; and dozens of interested Rush nurses, conducted a 10-week unit assistant pilot study in the Spring of 1988. Nine inpatient units participated in the initial program.

In September, 1988, the unit assistant program was formalized, and a year later there are now 37 unit assistants working throughout the Medical Center. While the basic job duties are the same for each assistant, schedules are tailored to meet each unit's needs.

Unit assistants undergo a two-day orientation/training program where they learn such skills as proper hospital bed making, infection control procedures, and body mechanics and lifting techniques. This program is followed by nursing unit orientation.

Dr. Donovan feels that the success of the unit assistant program stems from "analyzing what was really wrong, not what we thought was wrong. We asked the nurses what would help them the most."

Lending a hand

Alice Carpenter arrives on 8 South at 5 a.m. and immediately begins making up bed packs of fresh linen for the 37 beds on the unit.

"I then distribute fresh water to each patient," she says. "I greet patients and, if they are new, introduce myself and tell them what I do on the unit. Those who are here for awhile remember me and say, 'Hi, Alice. How are you this morning?' It's a nice way to start the day."

After water distribution, Carpenter stocks the three medication carts with supplies, neatens up the unit and, in between all this,

Alice Carpenter

makes a lot of beds. Each patient gets fresh linen daily. She also assists the nurses as they go about their morning duties, by helping patients to fill out menus and, with the nurses, moving patients for baths, clean linen or treatments. Another round of fresh water, and by 1:30 p.m., Carpenter's shift is over.

"I love my job. I feel like I really belong to a team. I wish I had worked here the whole time," says Carpenter, a 24-year Medical Center veteran, who worked in the laundry for 21 years and transport for 3 before taking the unit assistant position.

James Cogan, unit assistant on 7 South, feels the same way. "I worked in transport for four years before participating in the pilot program. There is a real sense of team effort and, for me, a new-felt closeness of working with people. I also like the schedule."

Cogan works from 7 a.m. to 3:30 p.m. weekdays, and alternate weekends and some holidays.

"This program has helped our floor a lot," says 7 South unit leader, Paula White, M.S., R.N. "While the job may consist of many little things, it's those little things that have made the difference.

"The unit is much neater. Many of our patients who were here before the program started and after it began have commented on that. And, supplies are there when the nurses need them. They don't have to run all over the unit looking for a pillow case or syringe."

Adds White: "7 South nurses are less frustrated because they are back at the bedside more. They can now delegate non-nursing tasks to someone who does them willingly and cheerfully."

Looking into the future

The next step in the nurse extender program at Rush is, again, dependent on what the nurses need. "We went back to the nurses and said, 'What else do you need help with?'" says Dr. Donovan.

"I don't see the unit assistant job changing at all. What may be needed is another person to help with things like moving patients or feeding babies."

"As the nursing shortage becomes more critical, I think we're going to see more non-professionals around," says White. "What I like about the approach Rush is taking is we're not compromising the primary nursing model, which all the nurses and patients like, but we're trying to find ways to enhance it." M-A.R.

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